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Supplementary Materials for

Global restoration opportunities in tropical rainforest landscapes

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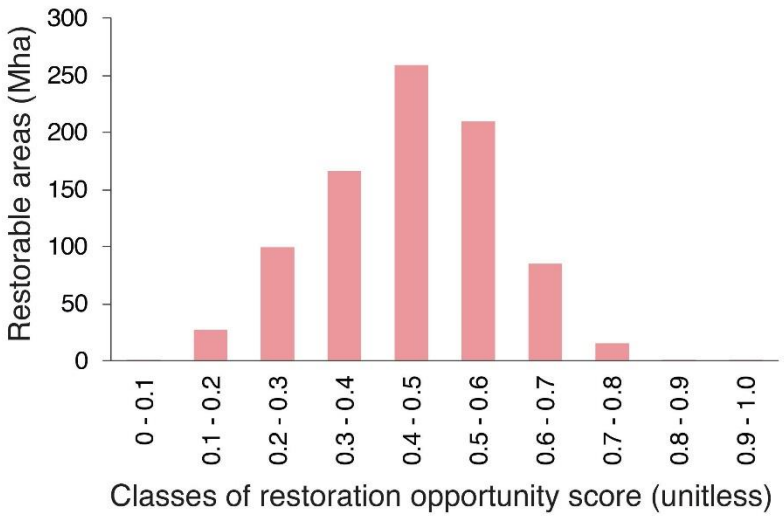


Fig. S1. Distribution of the total restoration area in relation to the ROS in tropical rainforest landscapes.

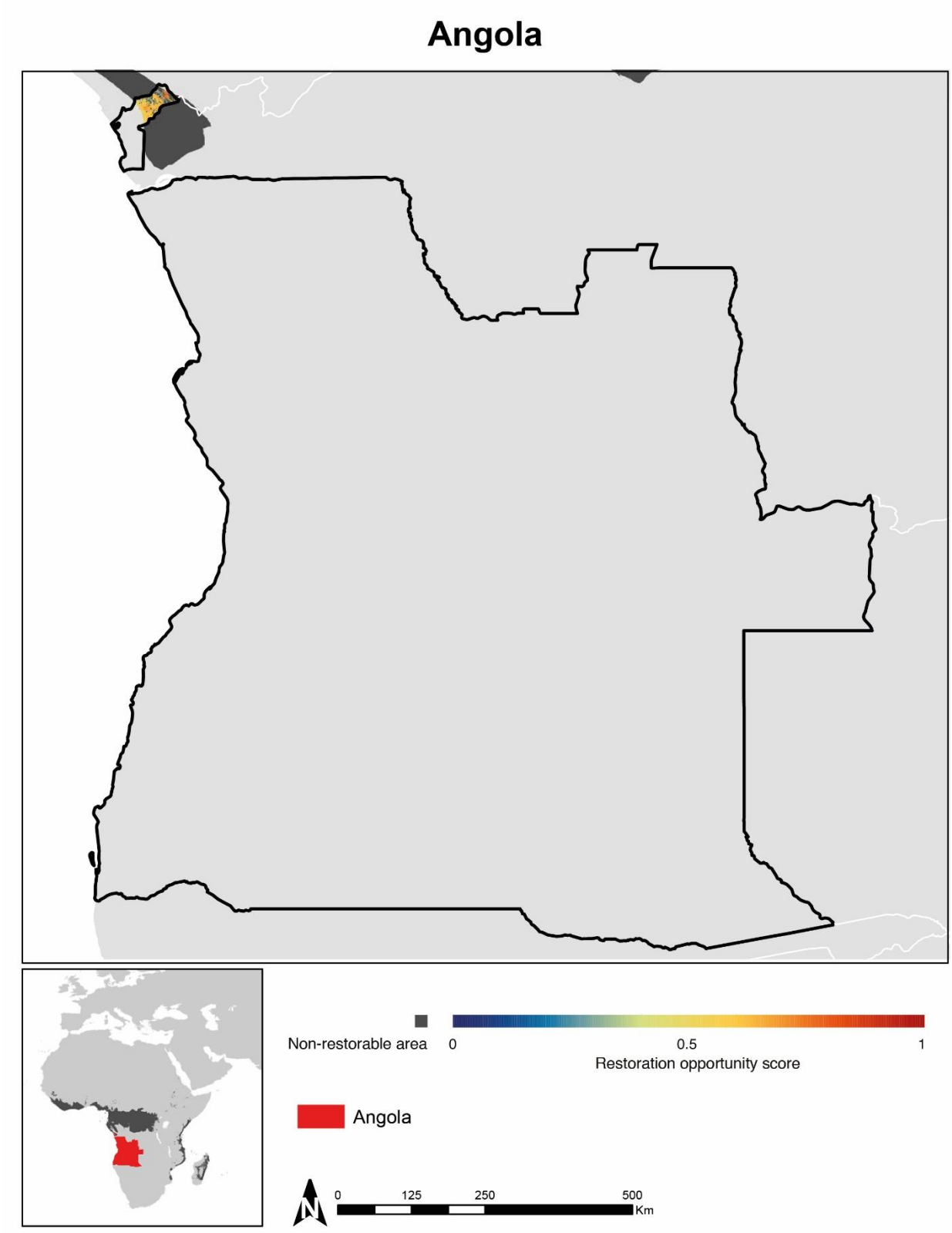
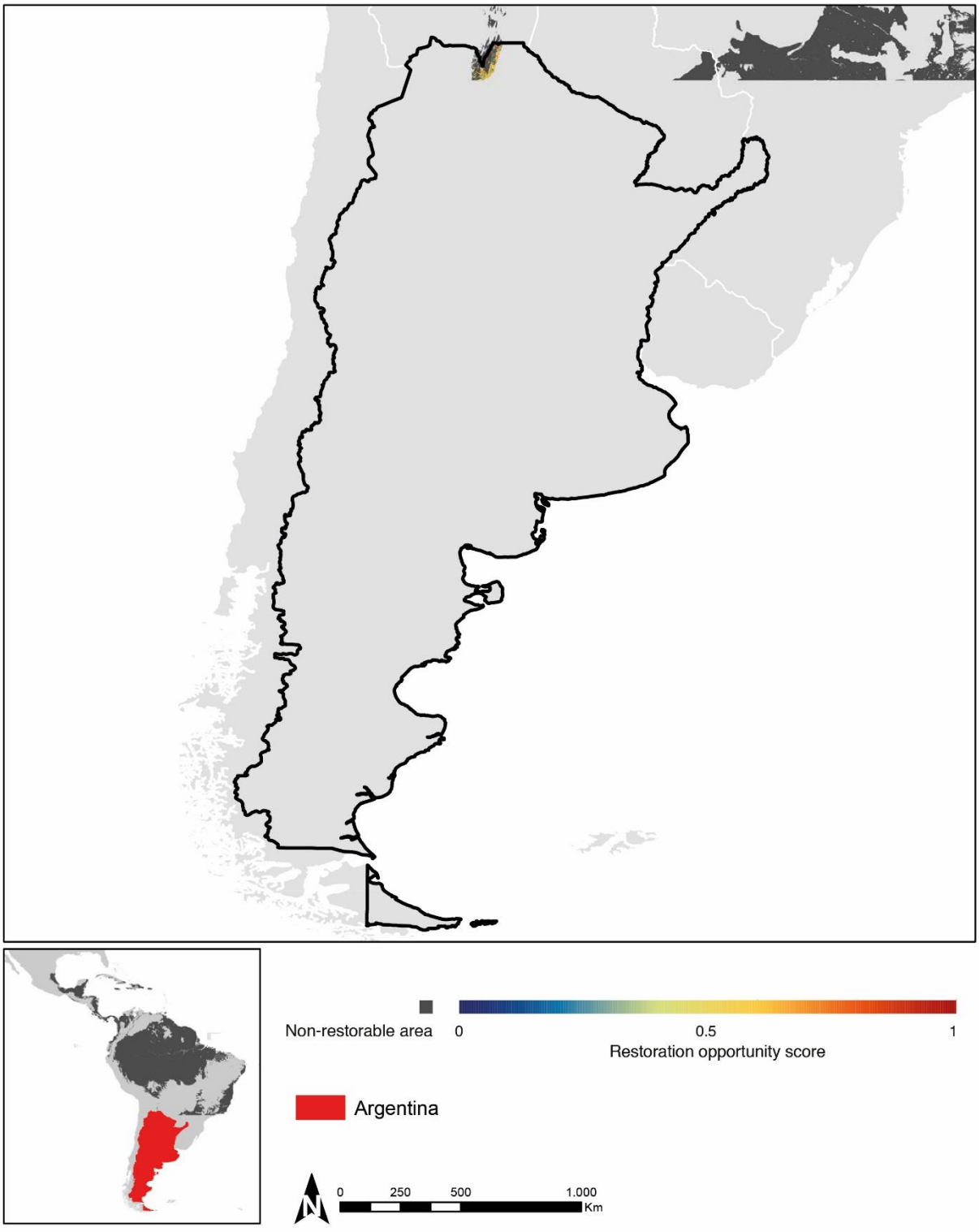
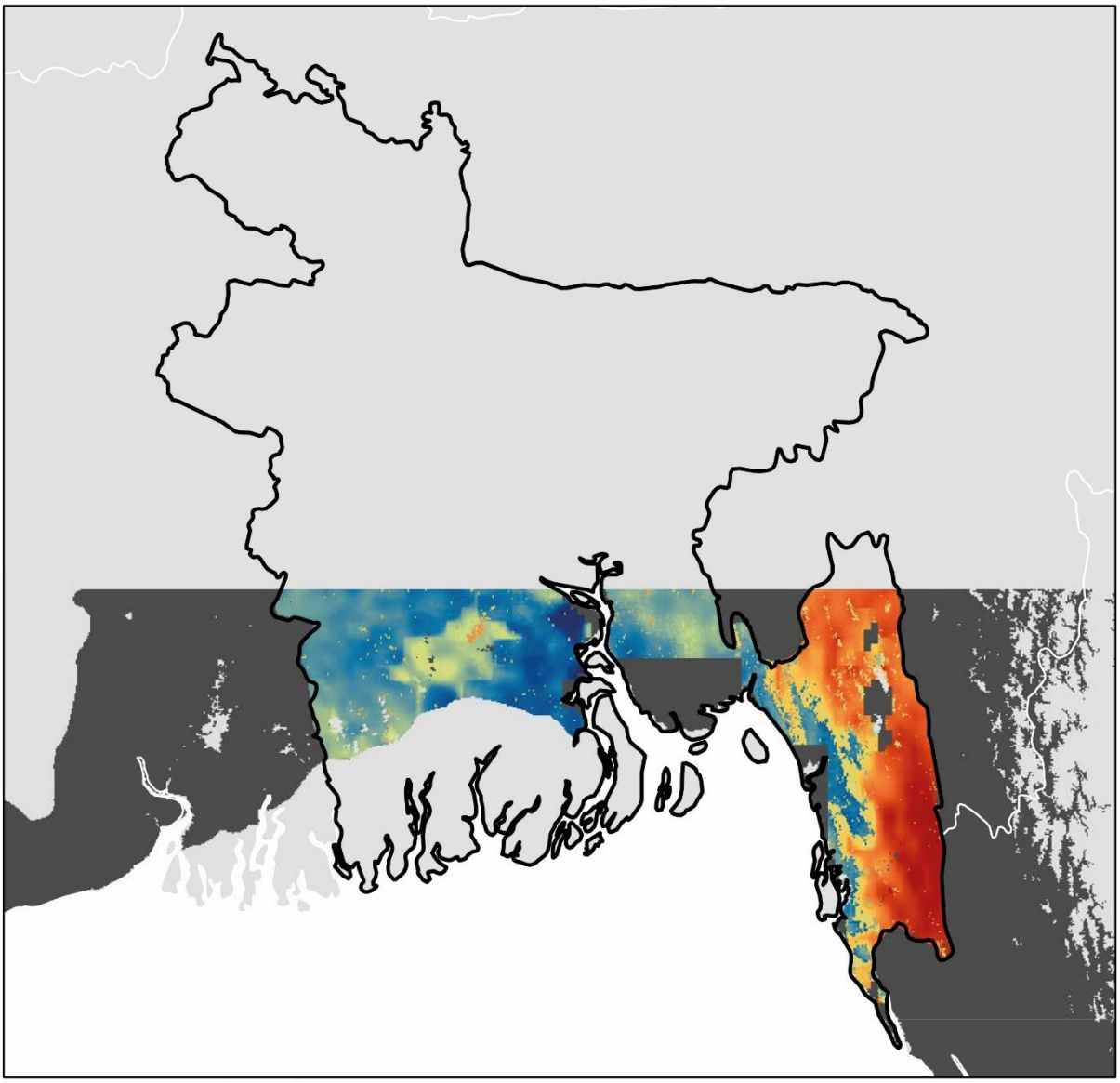


Fig. S2. ROS of tropical rainforest landscapes of countries, with data renormalized for each country. The depiction of boundaries and geographic names is simply for display purposes and does not imply views regarding the legal status of any territory or country.

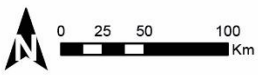
Argentina


Non-restorable area
0
0.5
1
Restoration opportunity score
Argentina
N
0
250
500
1.000
Km

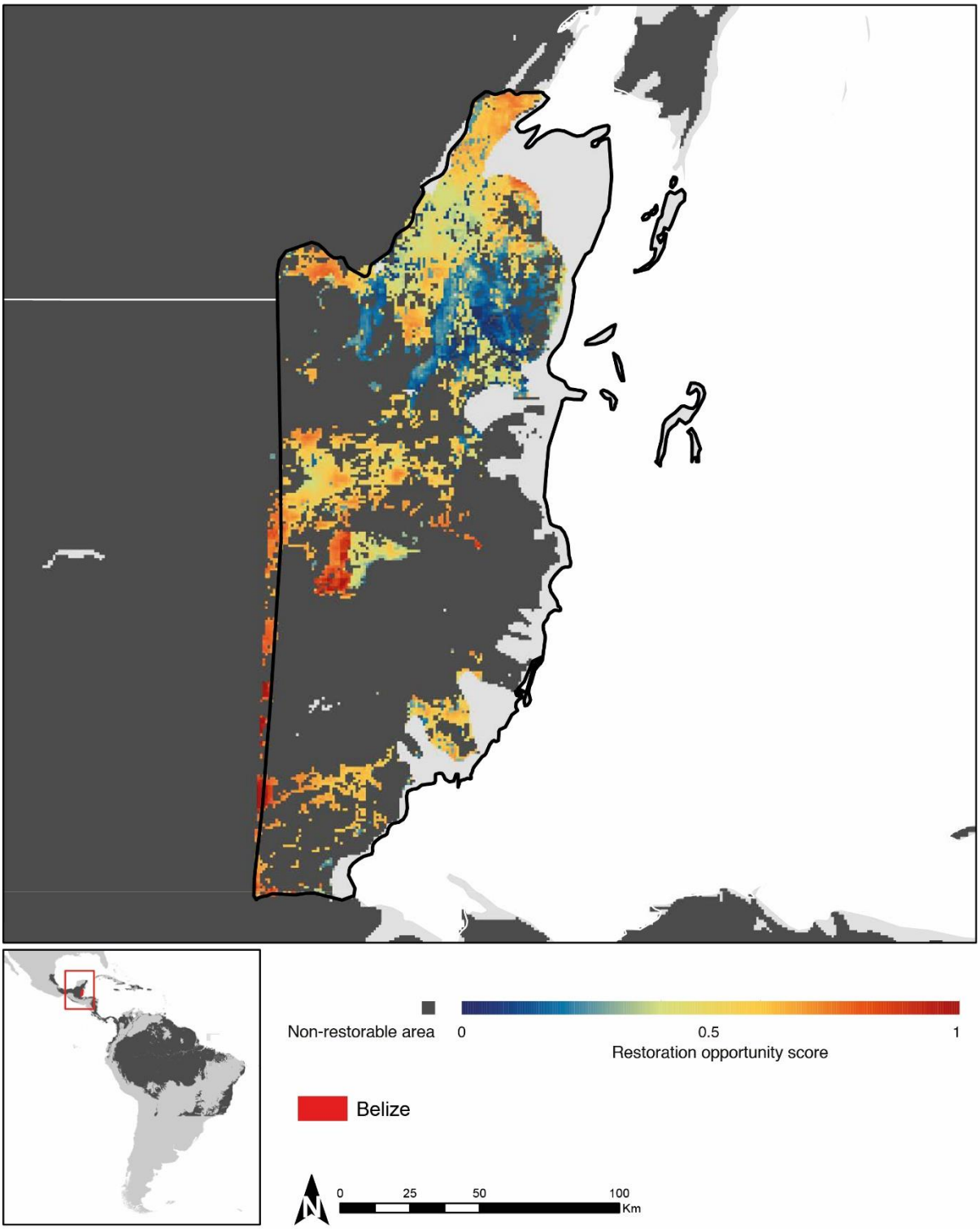
Bangladesh



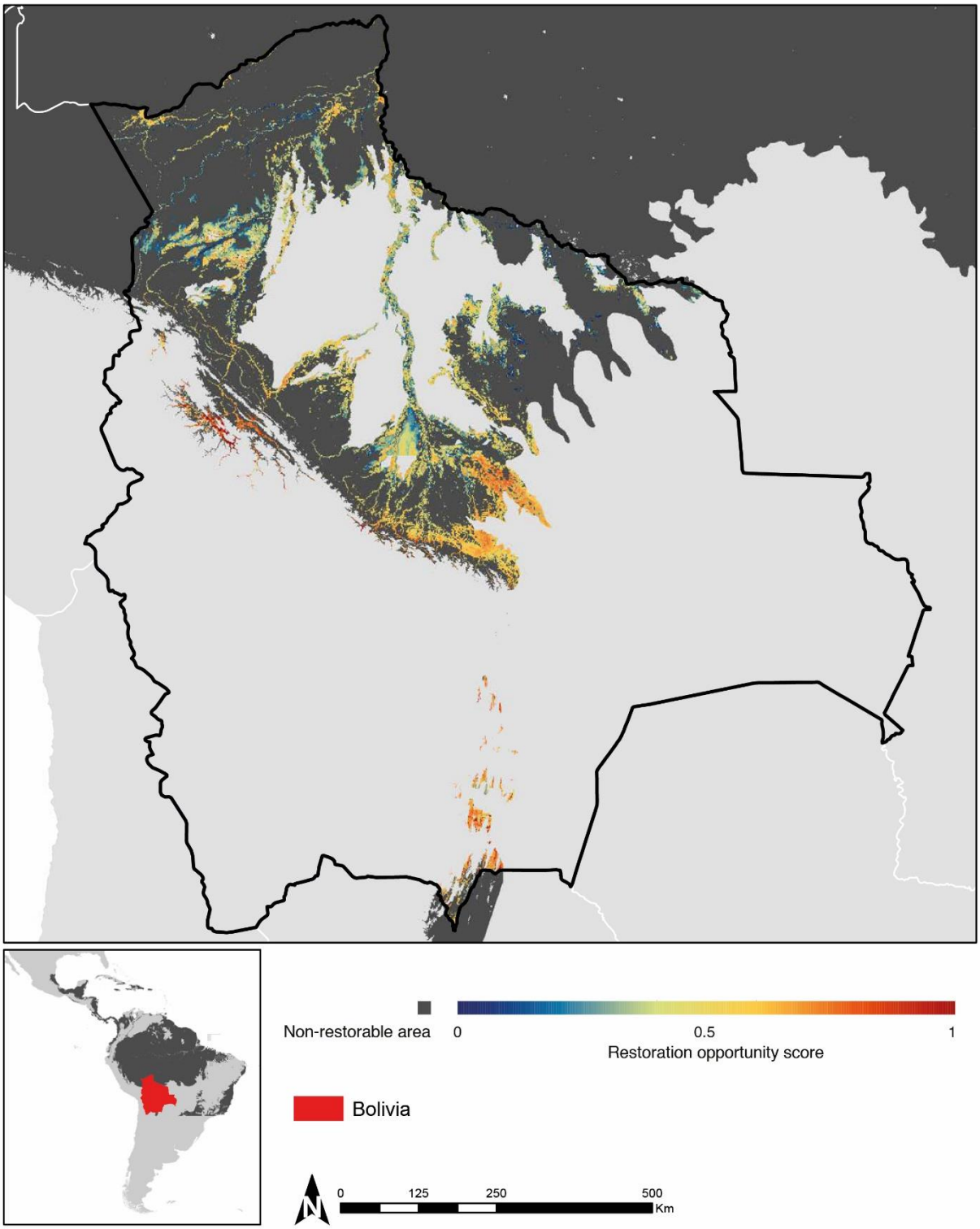
Bangladesh



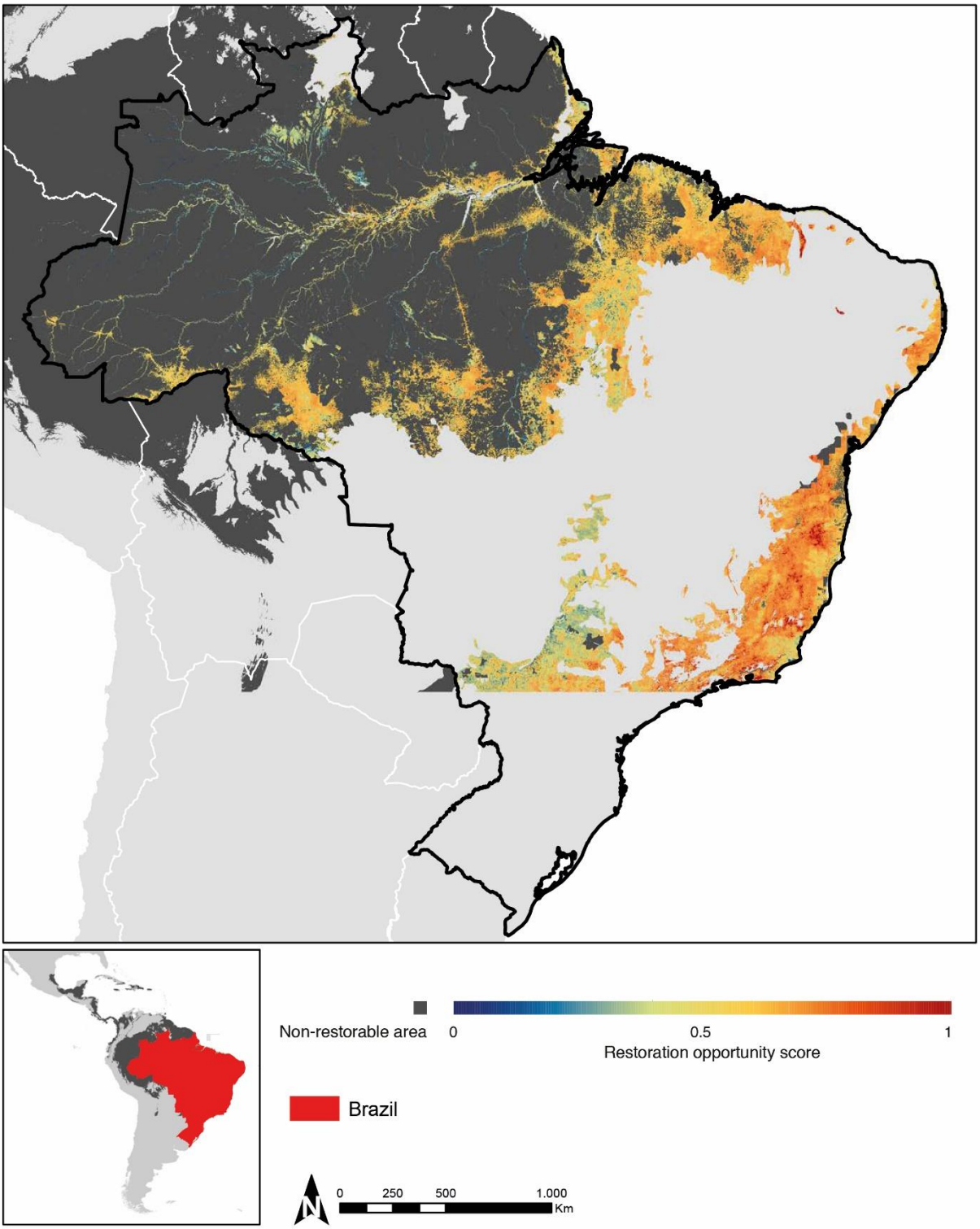
Belize


Non-restorable area
0
0.5
1
Restoration opportunity score
Belize
0
25
50
100
Km

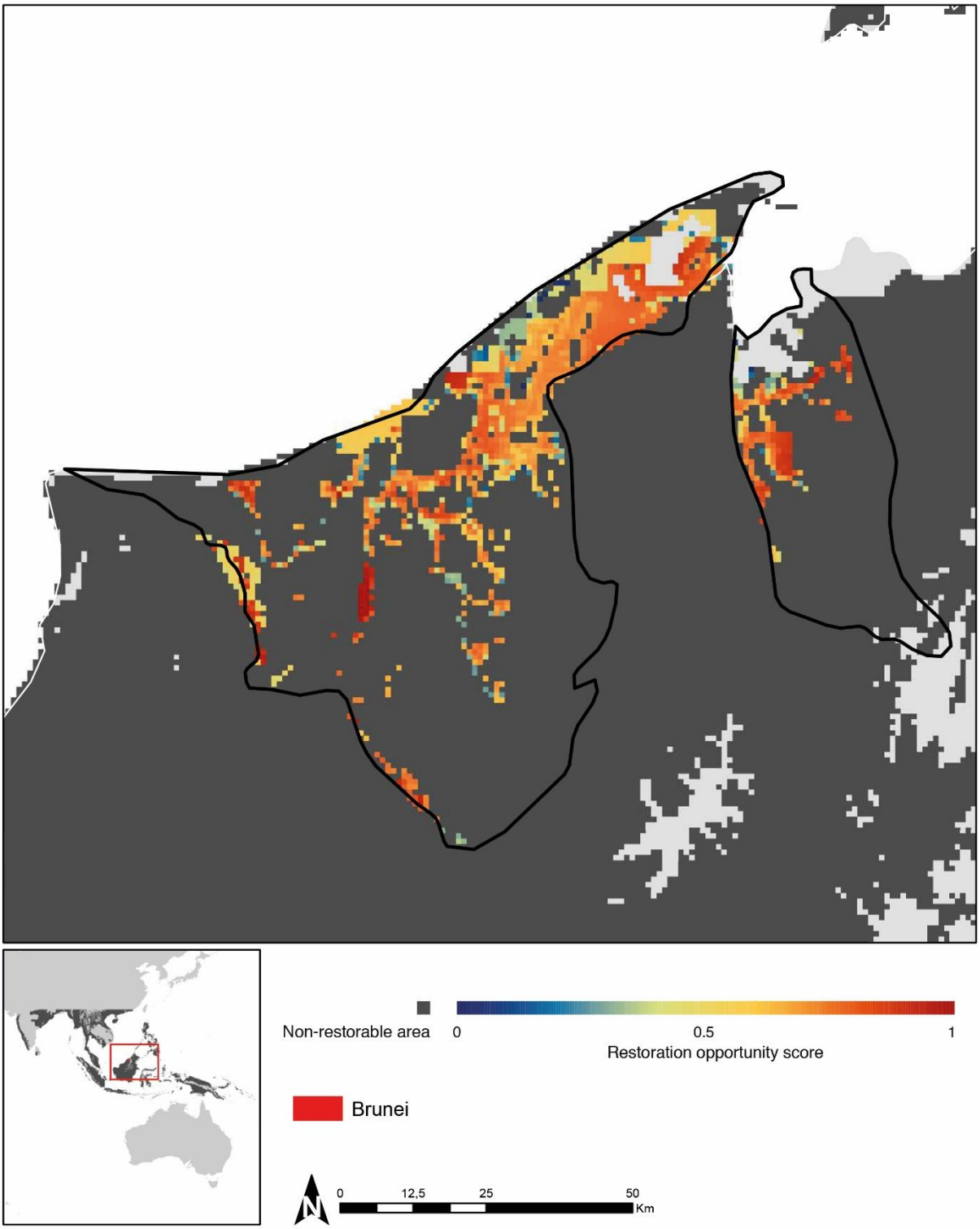
Bolivia


Non-restorable area
0
0.5
1
Restoration opportunity score
Bolivia
N
0
125
250
500
Km

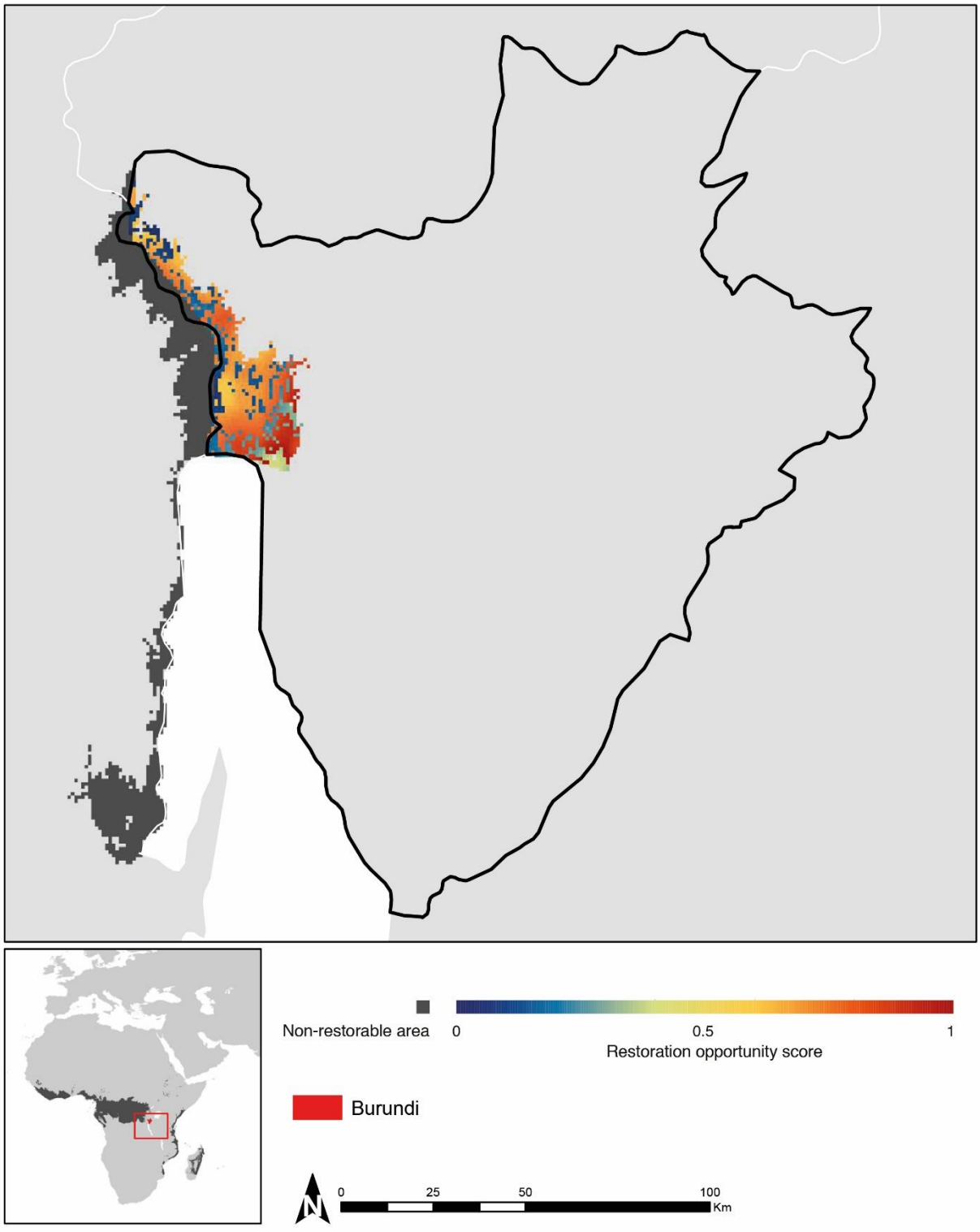
Brazil


Non-restorable area
0
0.5
1
Restoration opportunity score
Brazil
0
250
500
1.000
Km

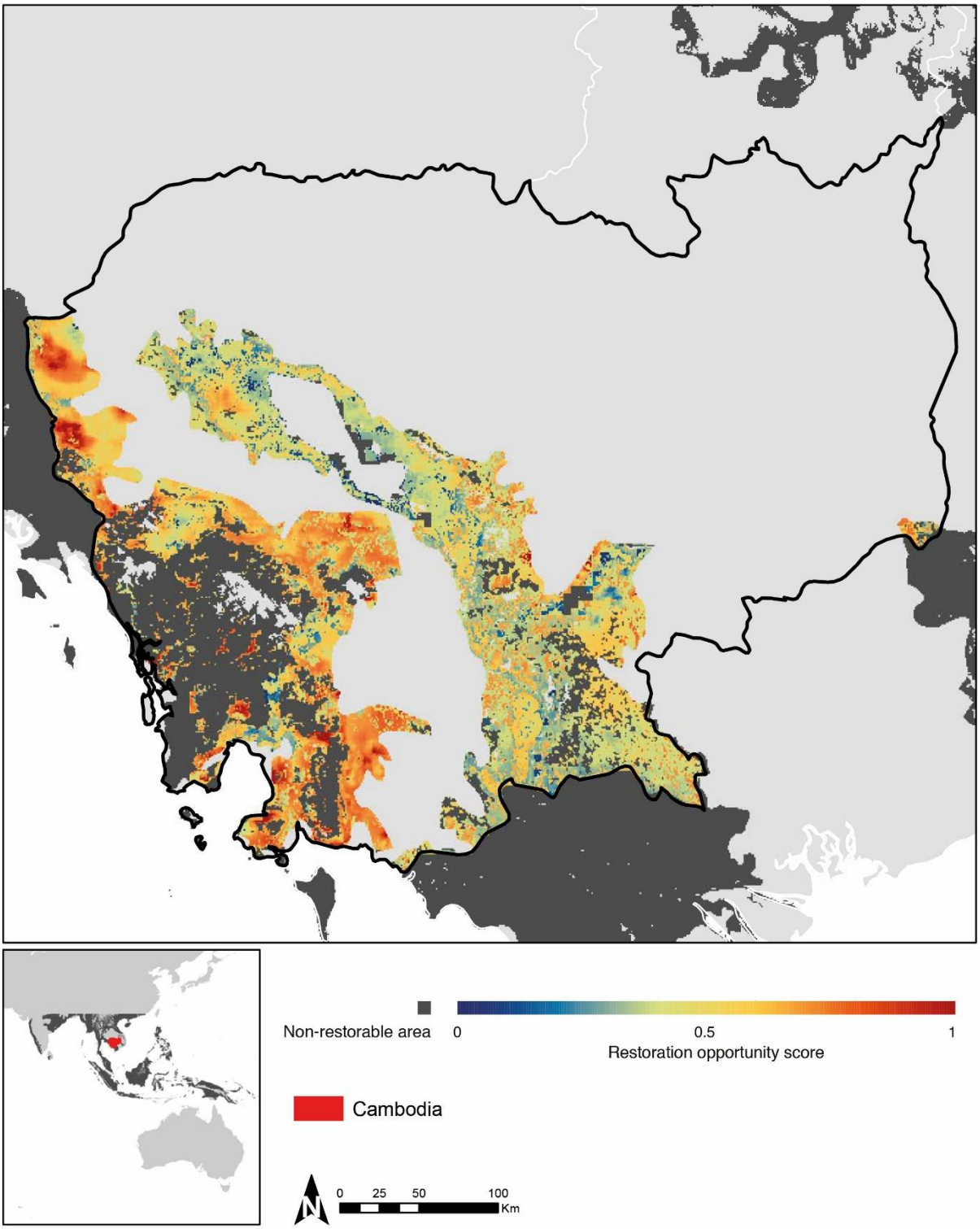
Brunei


Non-restorable area
0
0.5
1
Restoration opportunity score
Brunei
0
12.5
25
50
Km

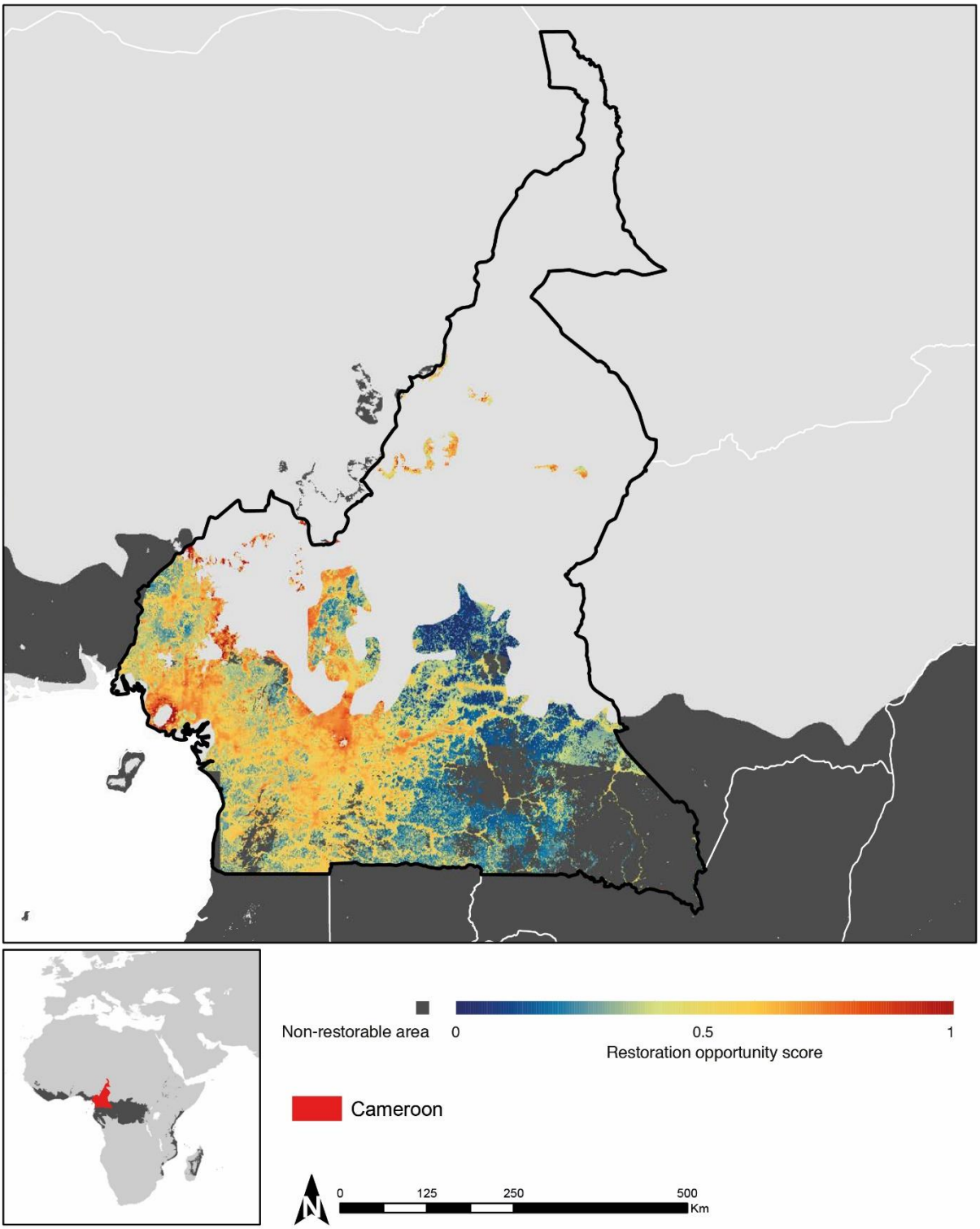
Burundi


Non-restorable area
0
0.5
1
Restoration opportunity score
Burundi
N
0
25
50
100
Km

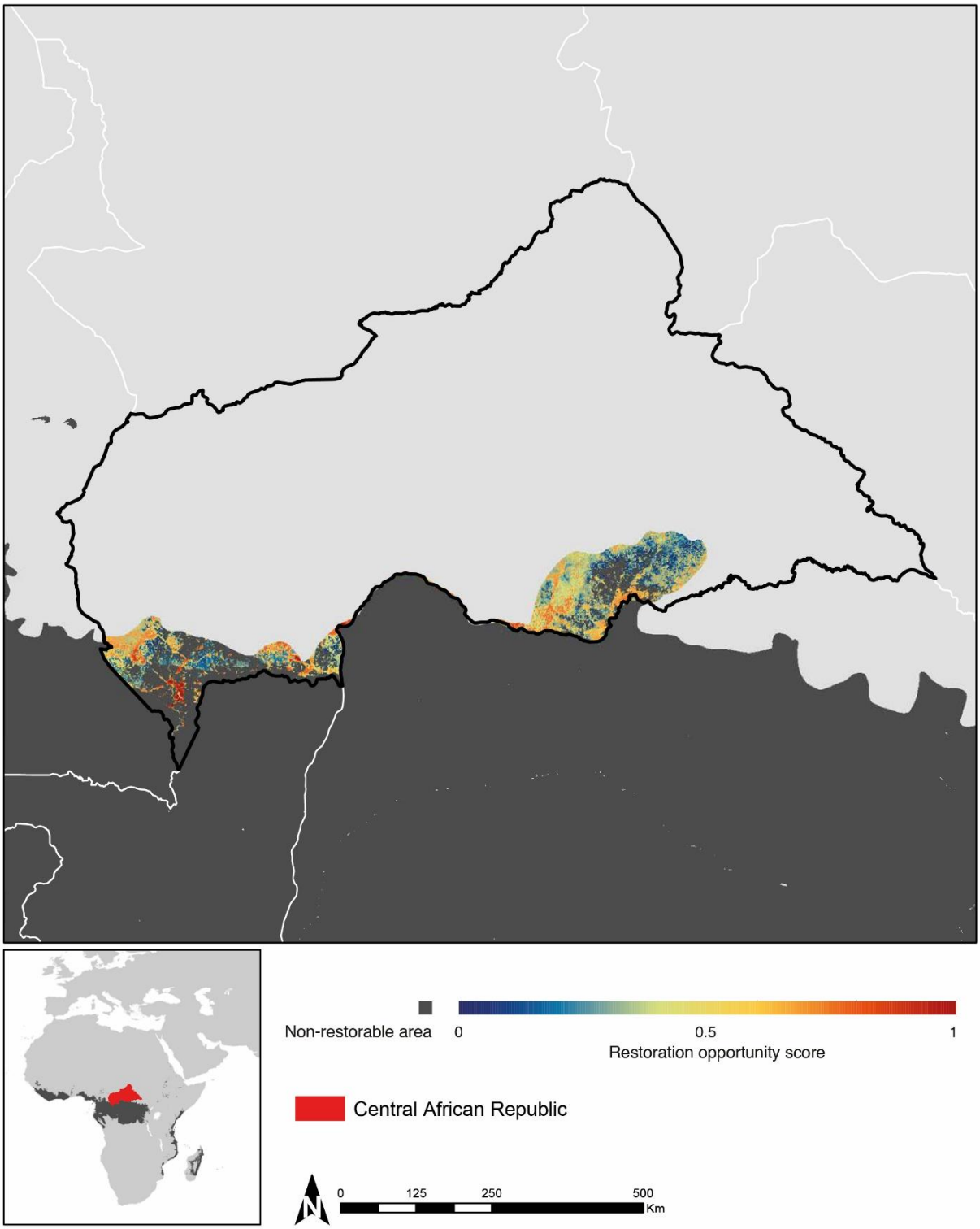
Cambodia


Non-restorable area
0
0.5
1
Restoration opportunity score
Cambodia
0
25
50
100
Km

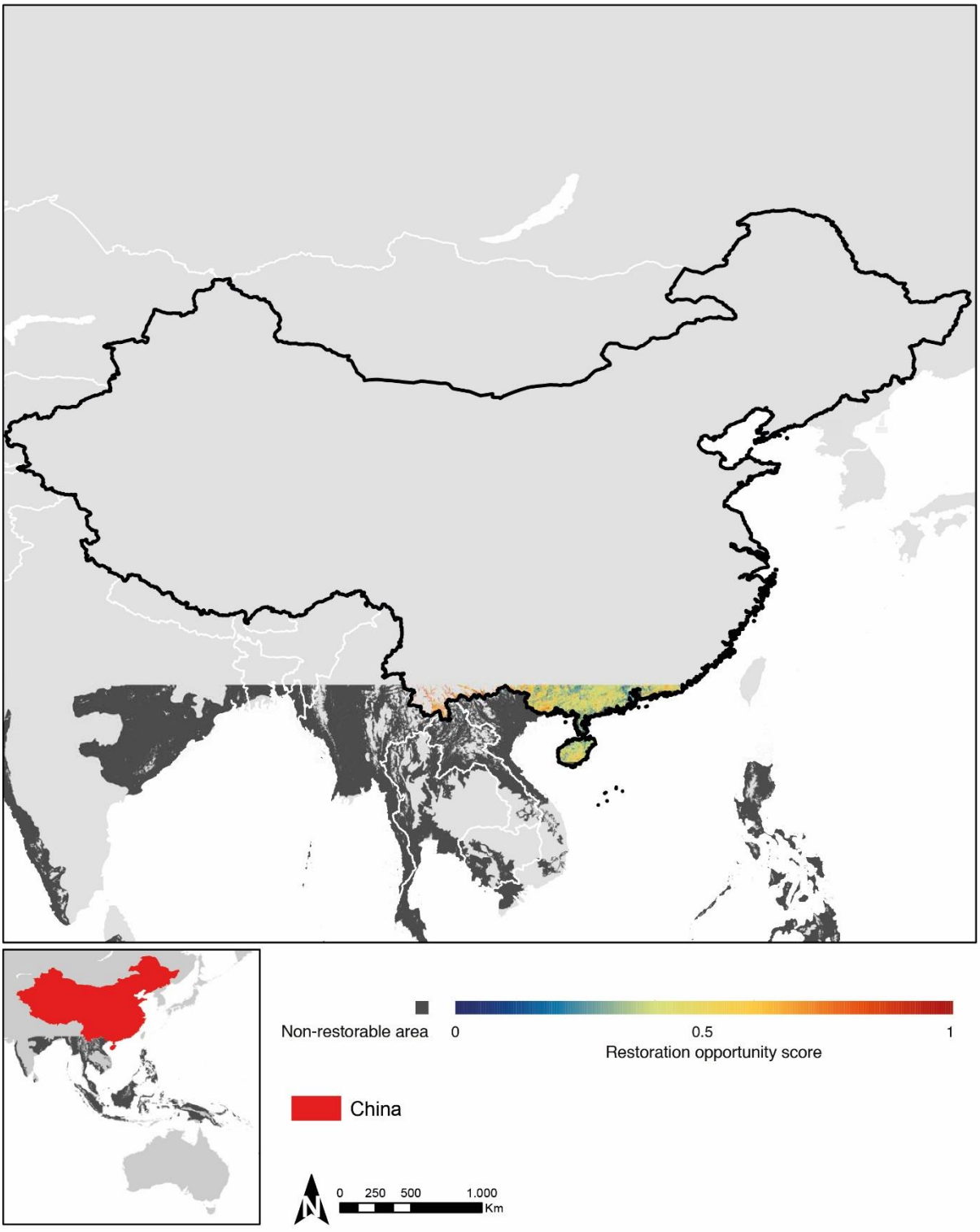
Cameroon


Non-restorable area
0
0.5
1
Restoration opportunity score
Cameroon
0
125
250
500
Km

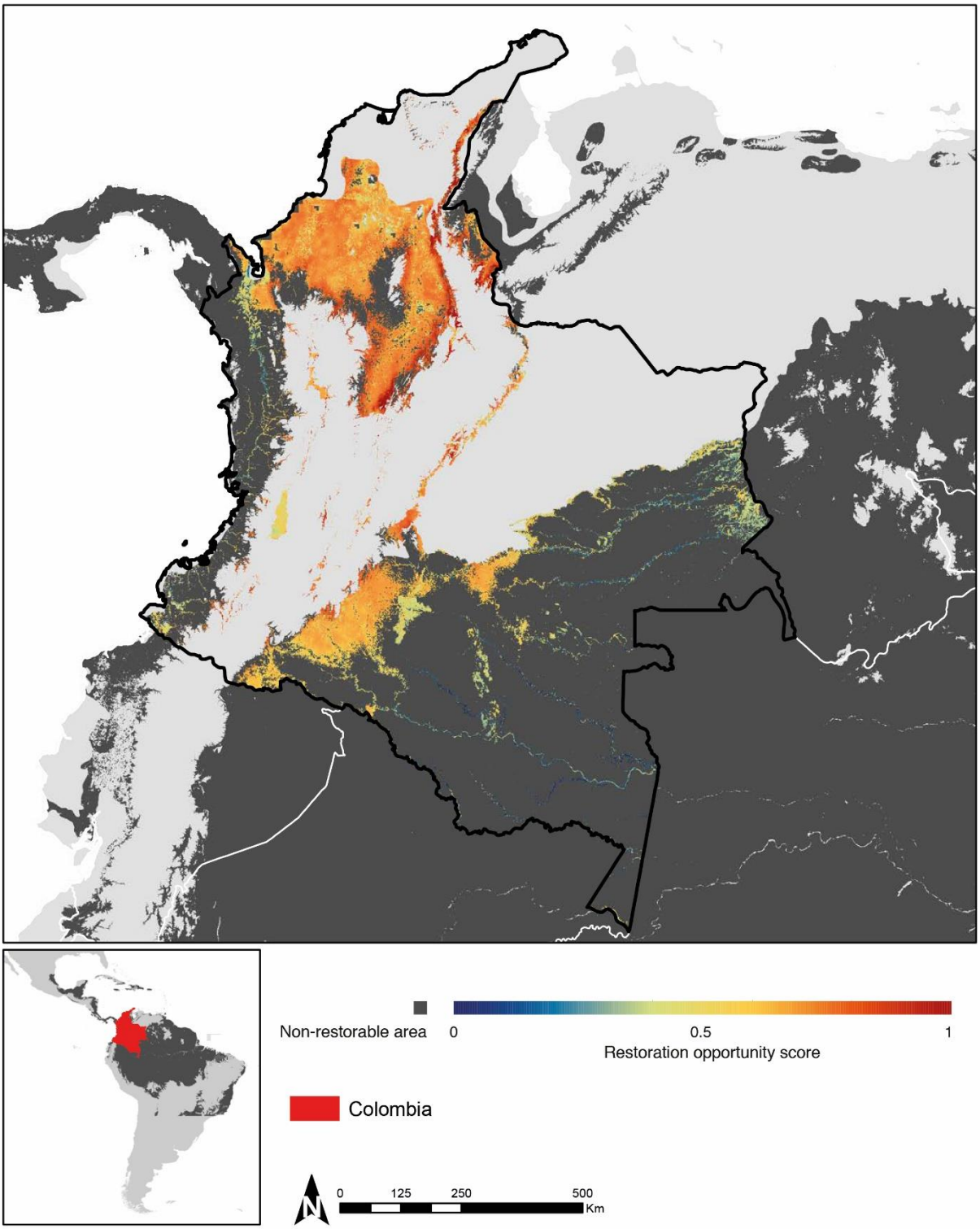
Central African Republic



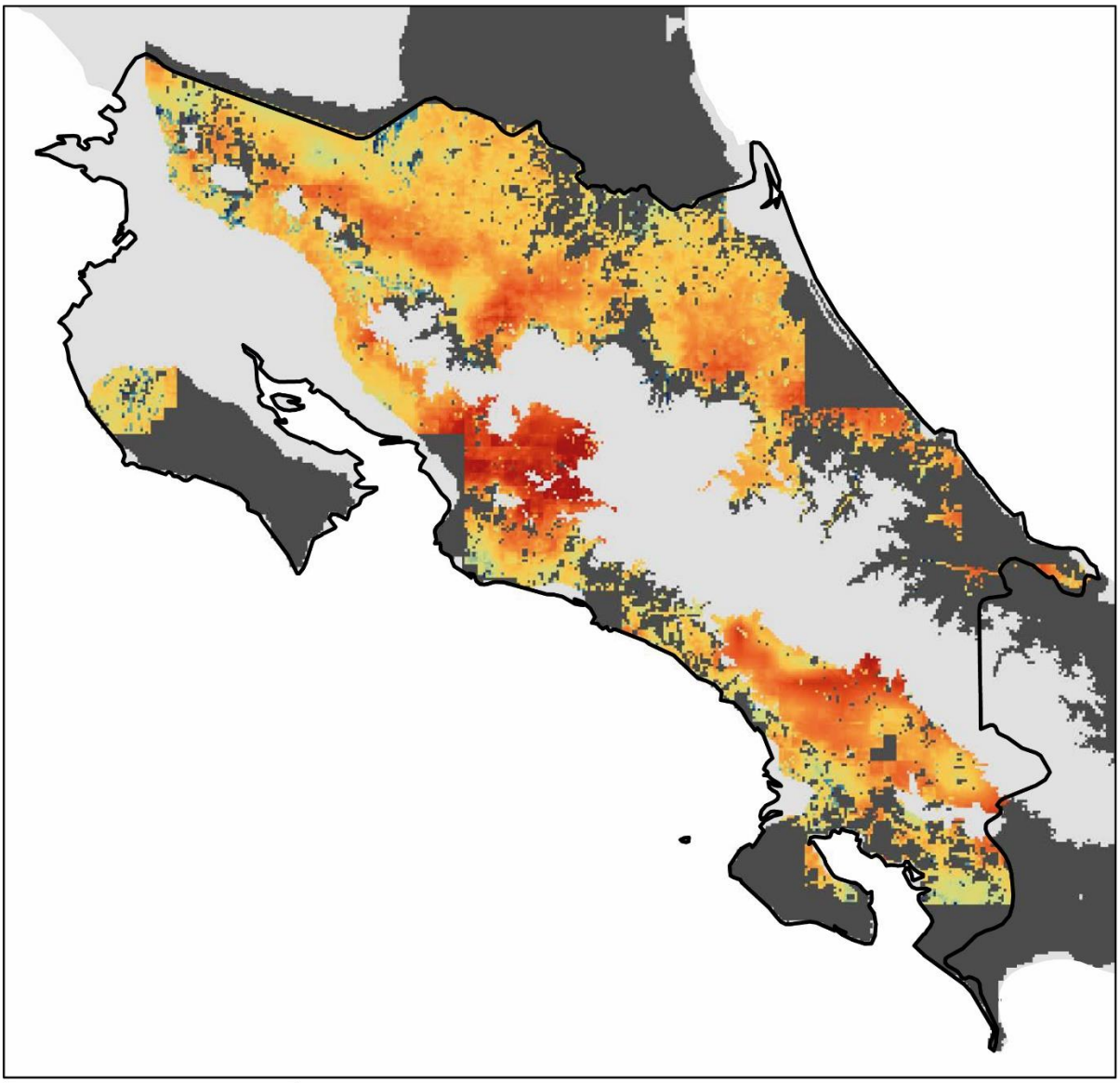
China


Non-restorable area
0
0.5
1
Restoration opportunity score
China
0 250 500 1.000
Km

Colombia


Non-restorable area
0
0.5
1
Restoration opportunity score
Colombia
N
0
125
250
500
Km

Costa Rica



Non-restorable area

0

0.5

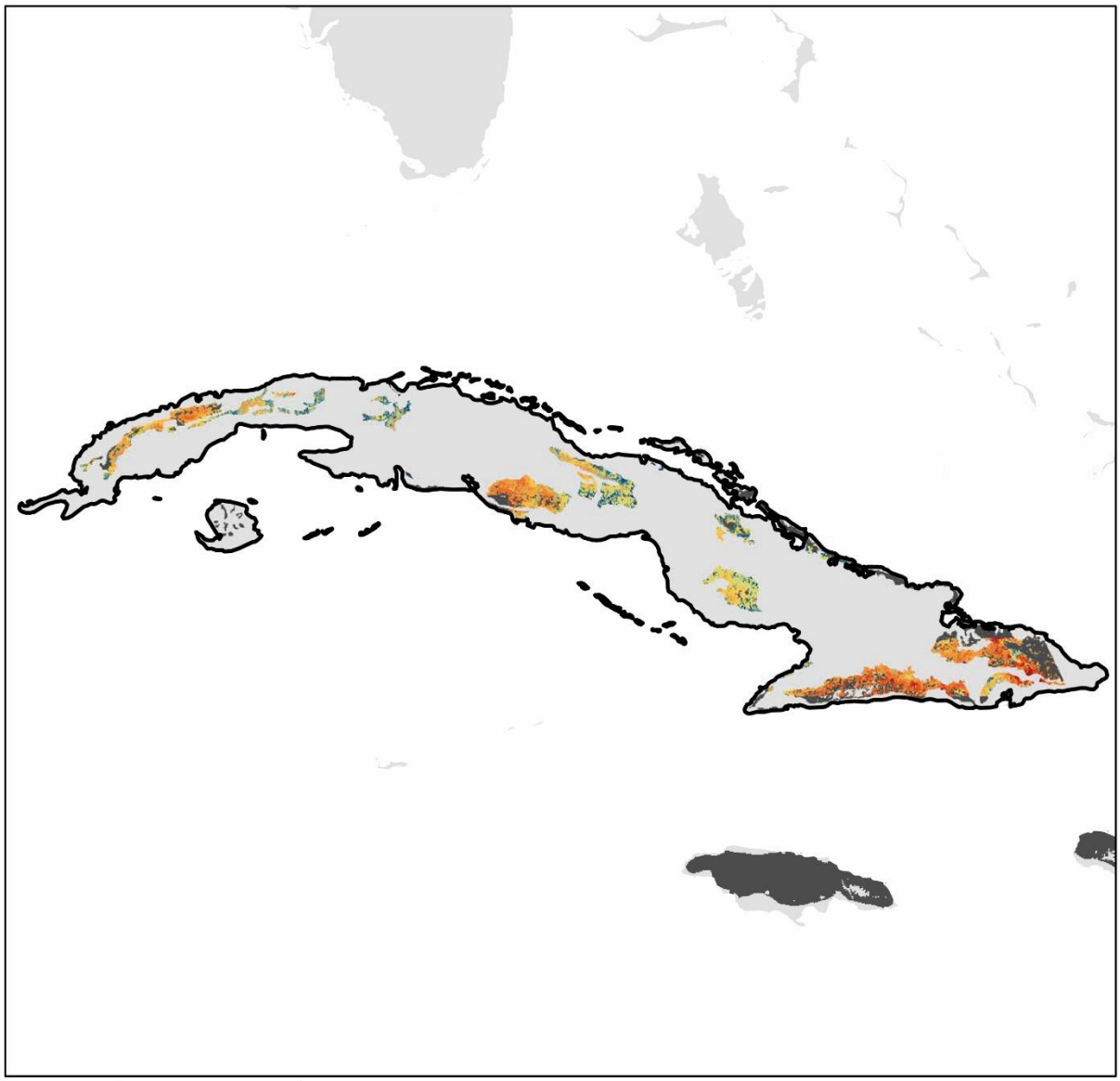
1

Restoration opportunity score

Costa Rica

0 25 50 100 Km

Cuba



Non-restorable area

0

0.5

1

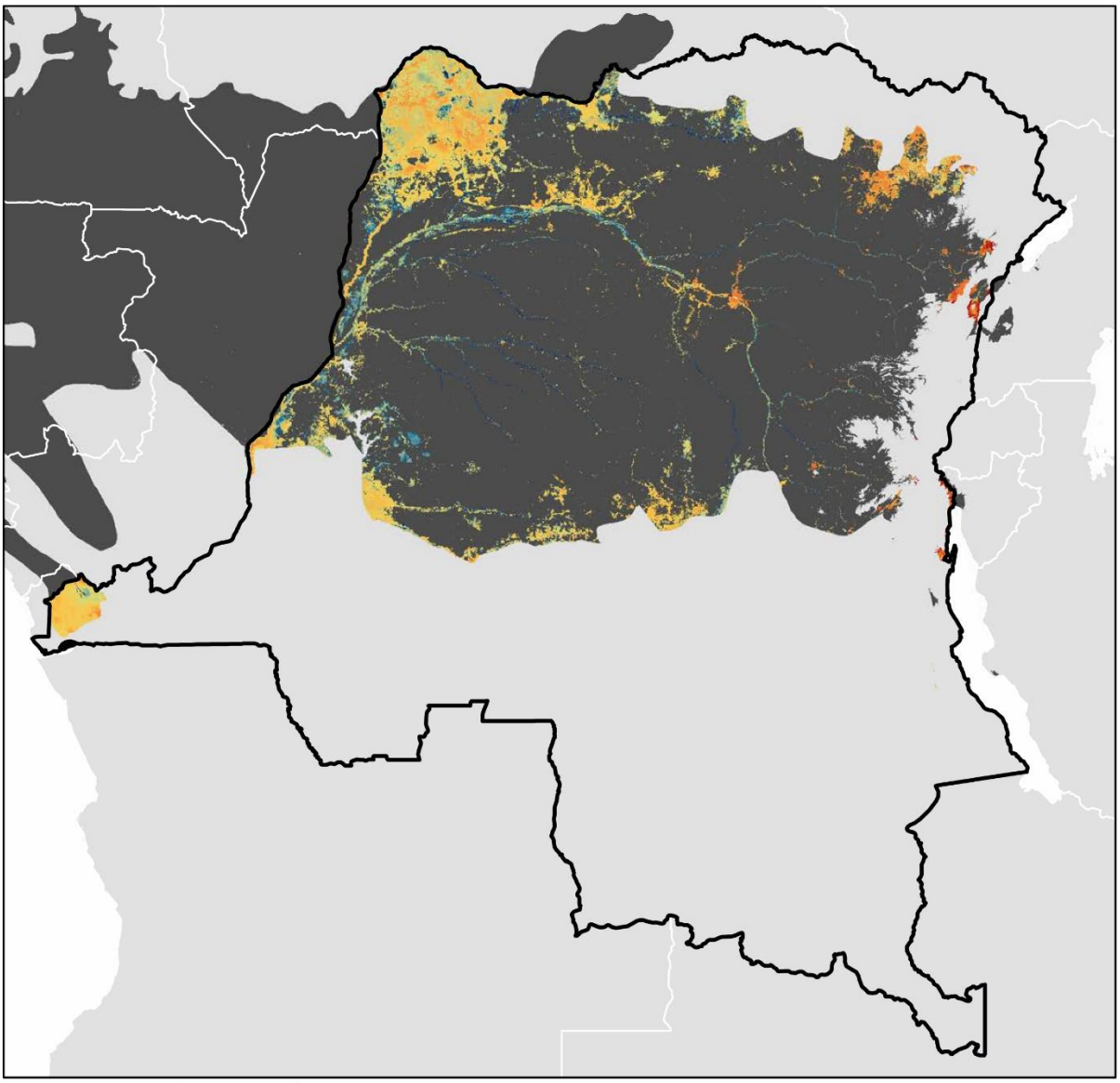
Restoration opportunity score

Cuba

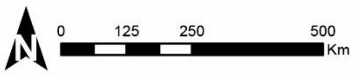
N

0 125 250 500 Km

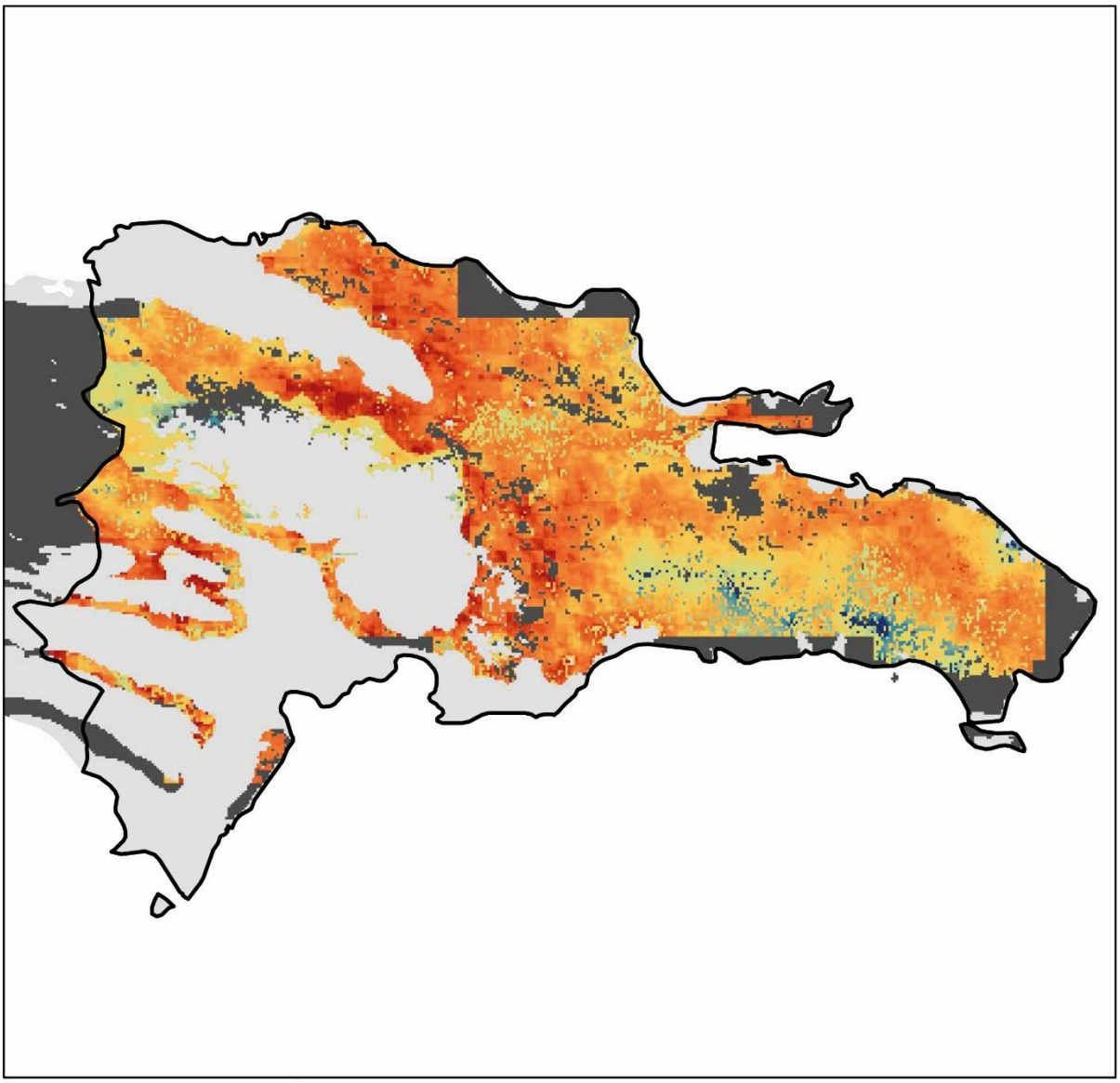
Democratic Republic of the Congo



Democratic Republic of the Congo



Dominican Republic



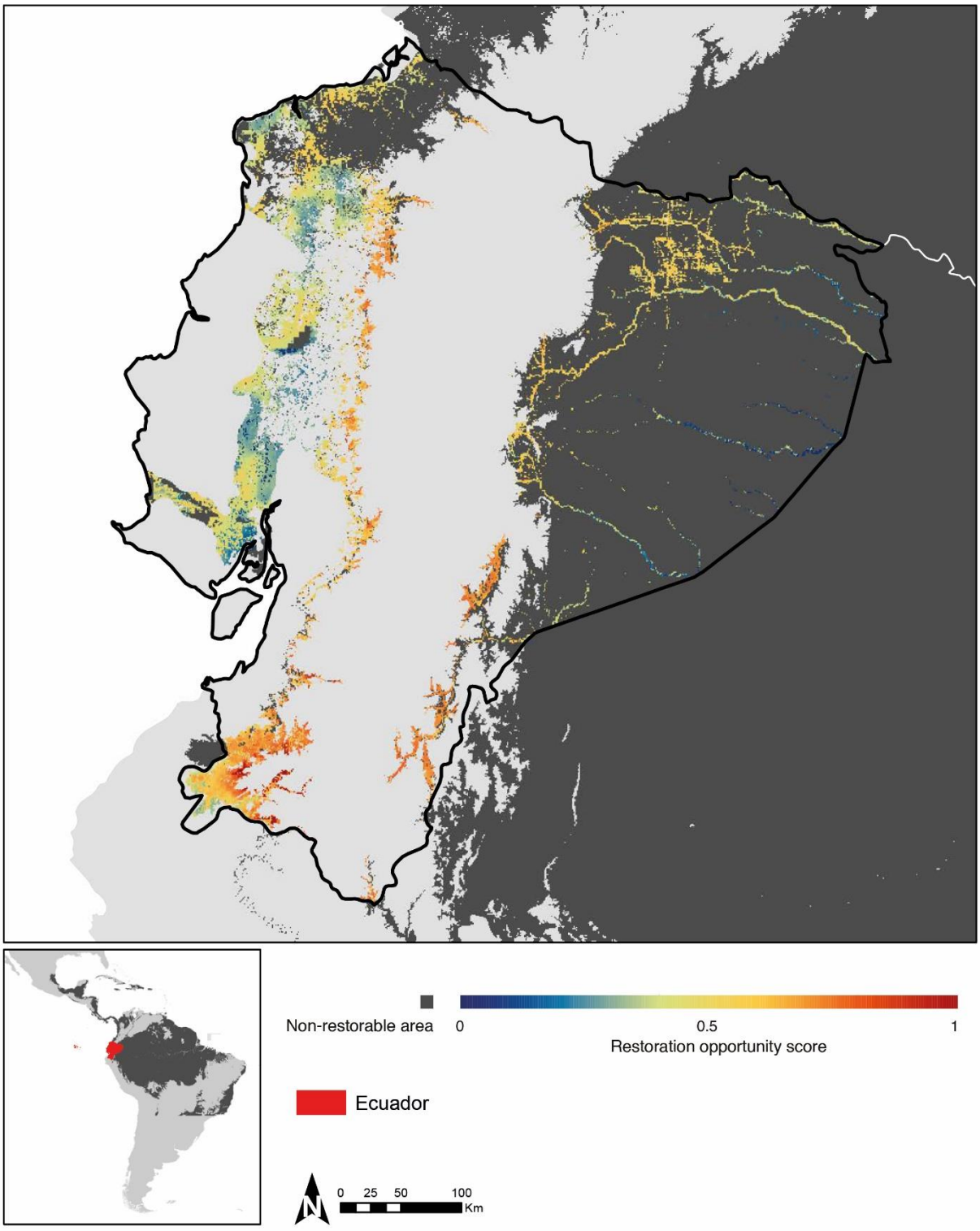
Non-restorable area 0 0.5 1

Restoration opportunity score

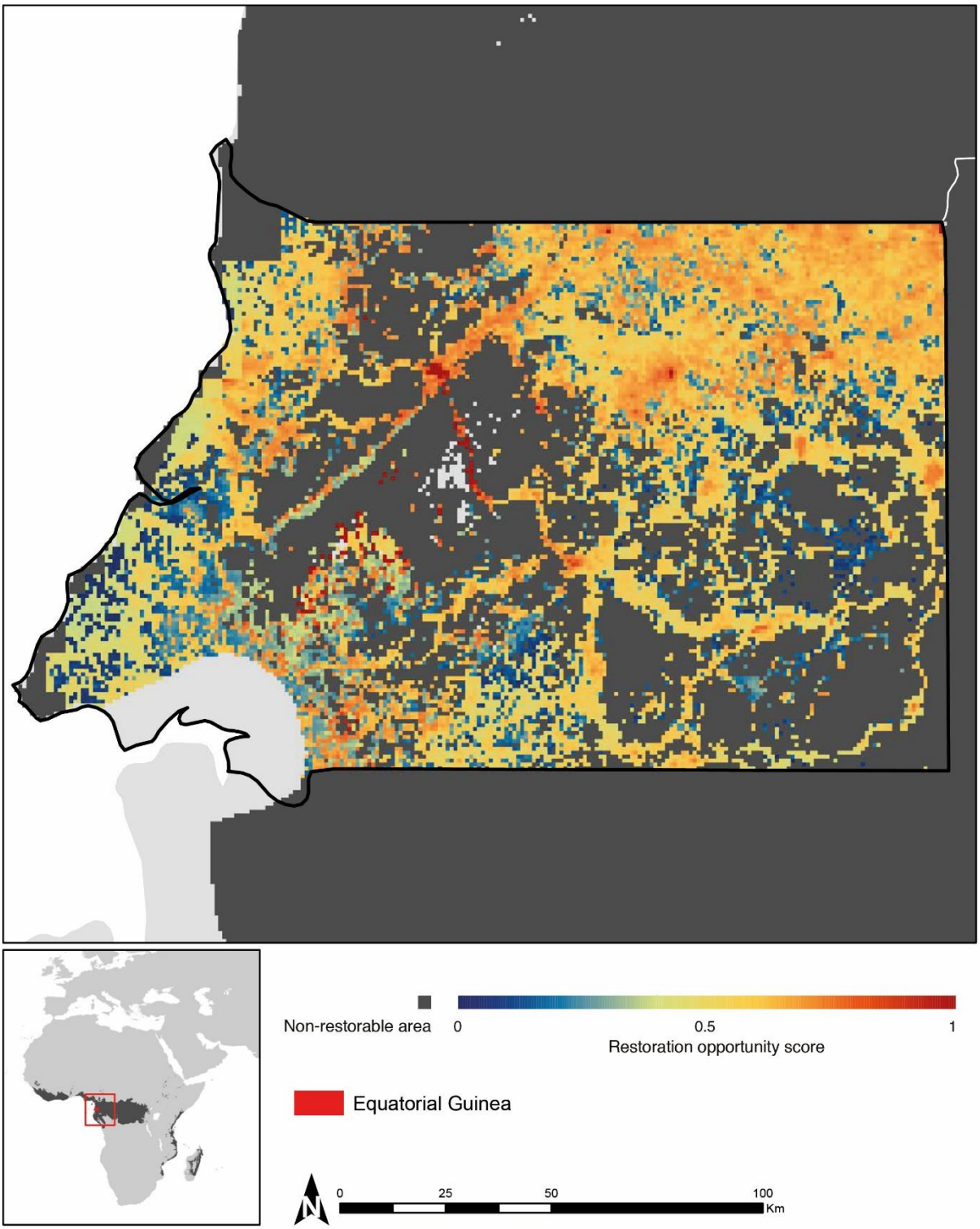
Dominican Republic

N 0 25 50 100 Km

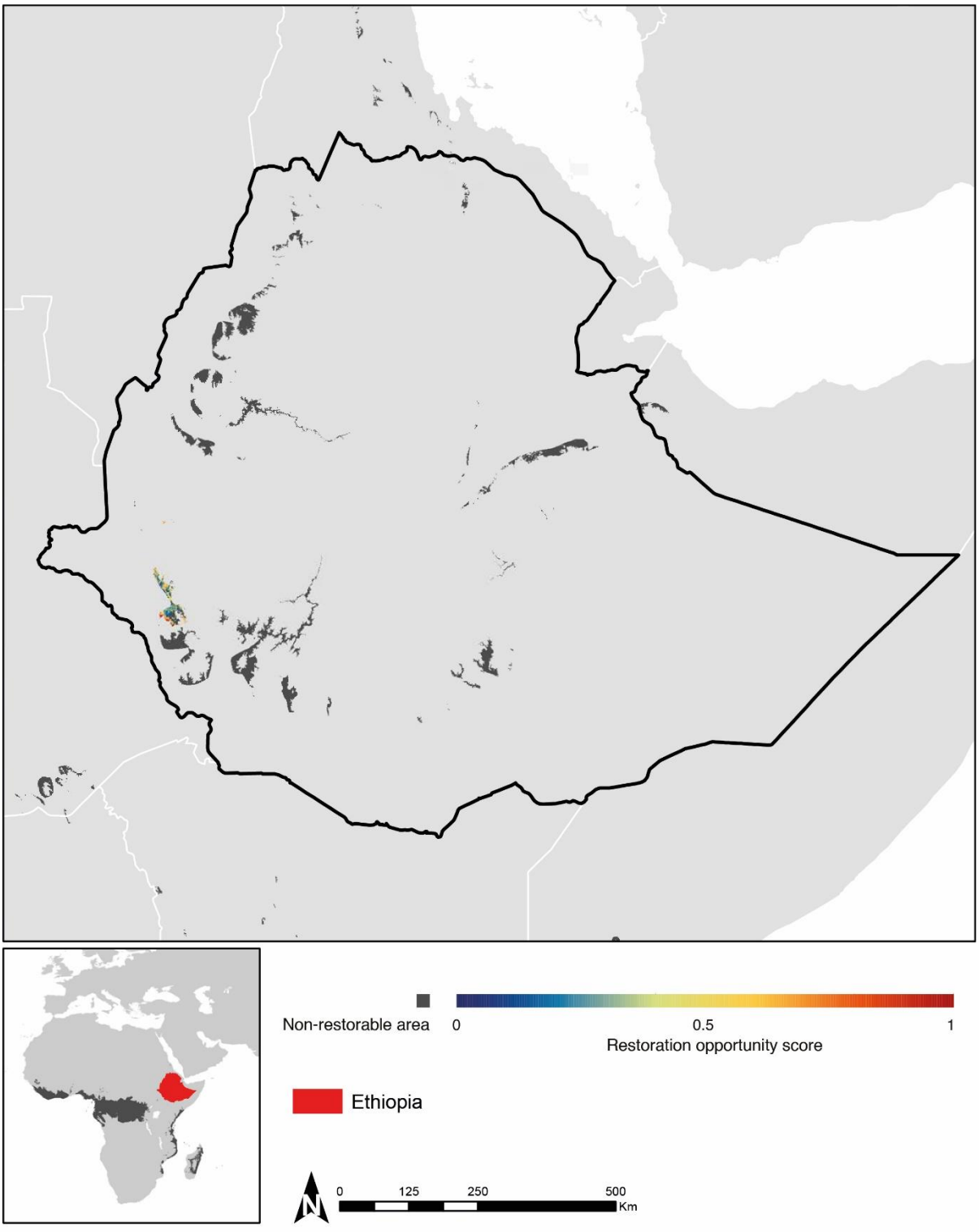
Ecuador


Non-restorable area
0
0.5
1
Restoration opportunity score
Ecuador
N
0 25 50 100
Km

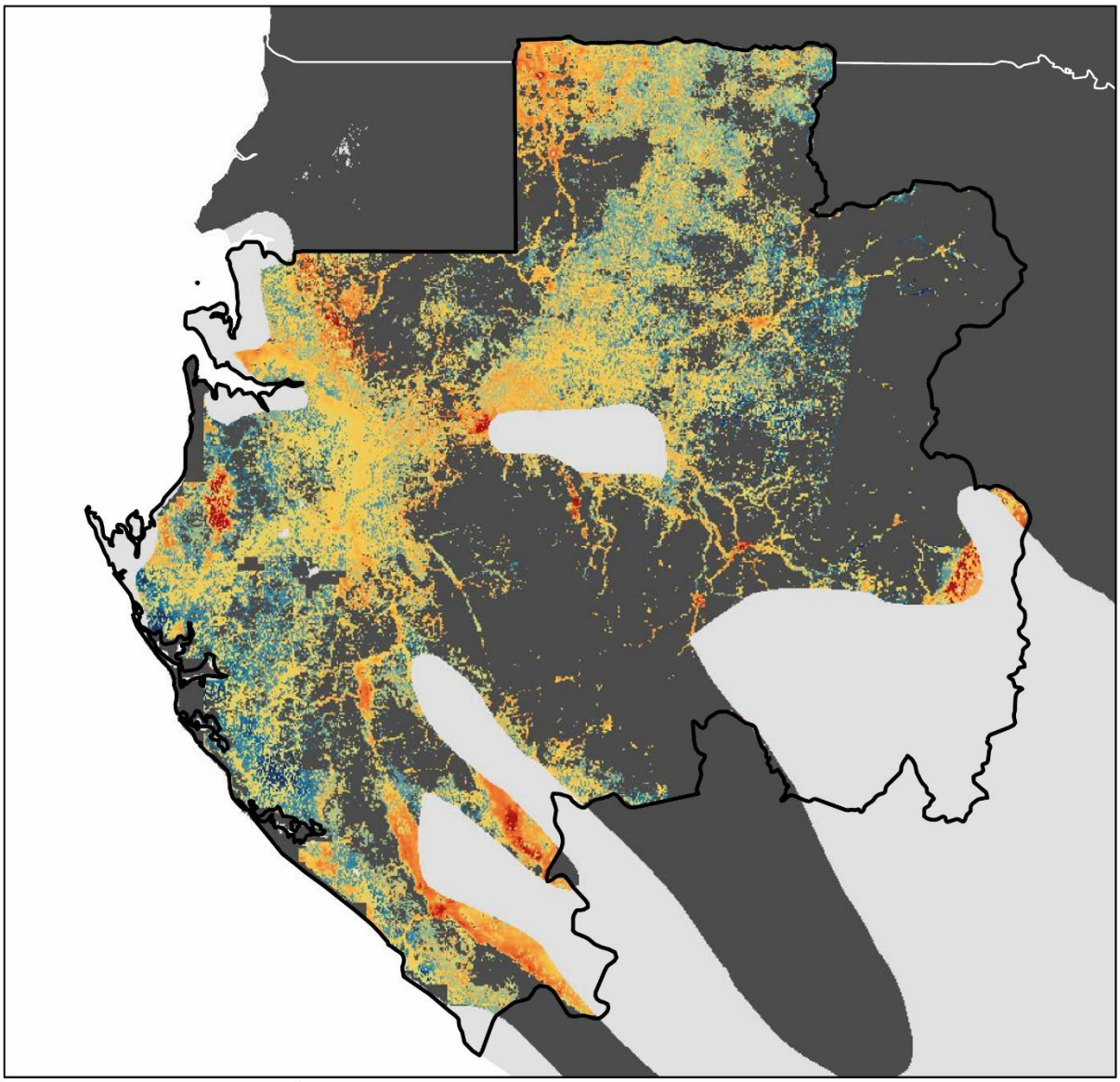
Equatorial Guinea



Ethiopia


Non-restorable area
0
0.5
1
Restoration opportunity score
Ethiopia
0
125
250
500
Km

Gabon



Non-restorable area

0

0.5

1

Restoration opportunity score

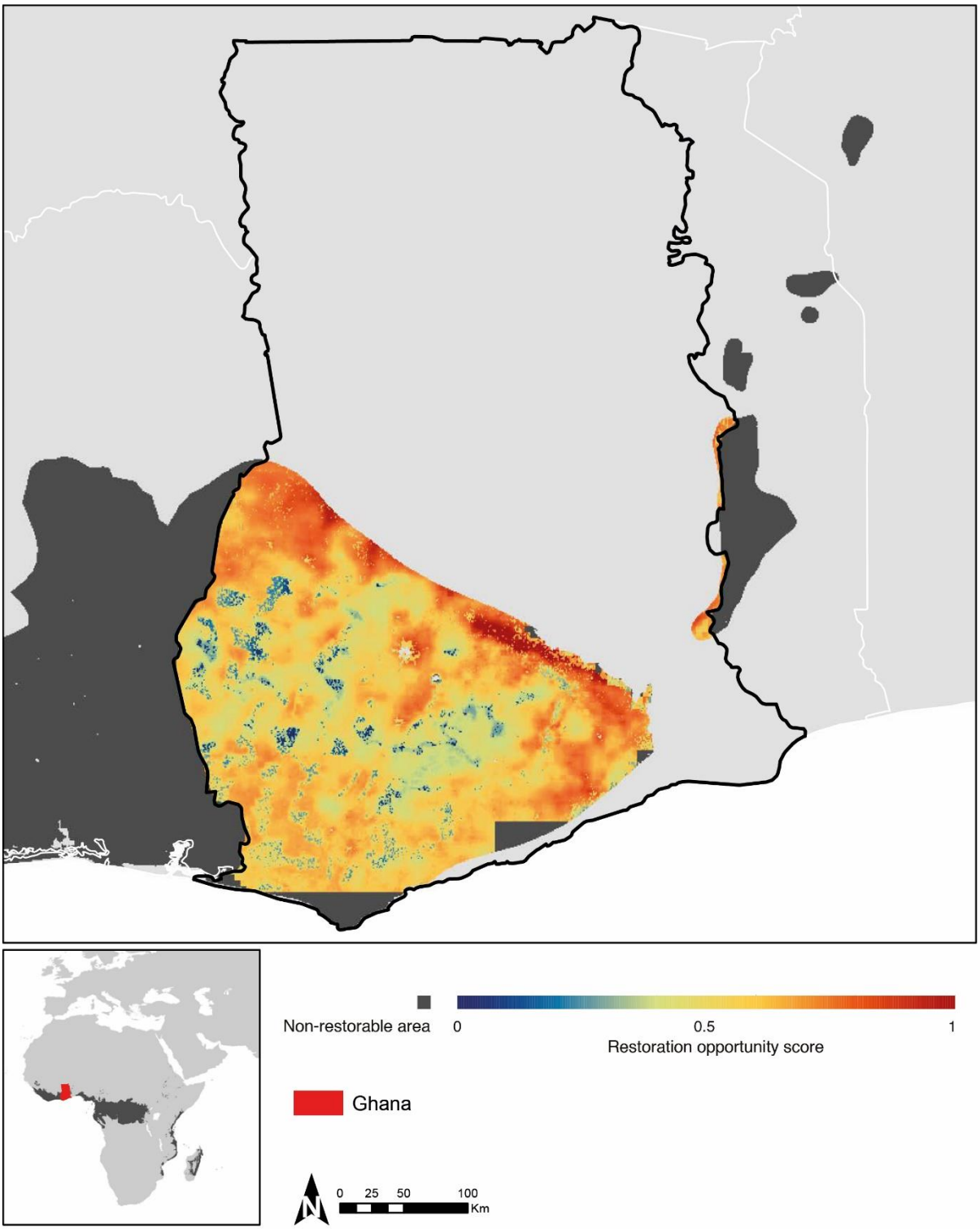
Gabon

N

0 25 50 100

Km

Ghana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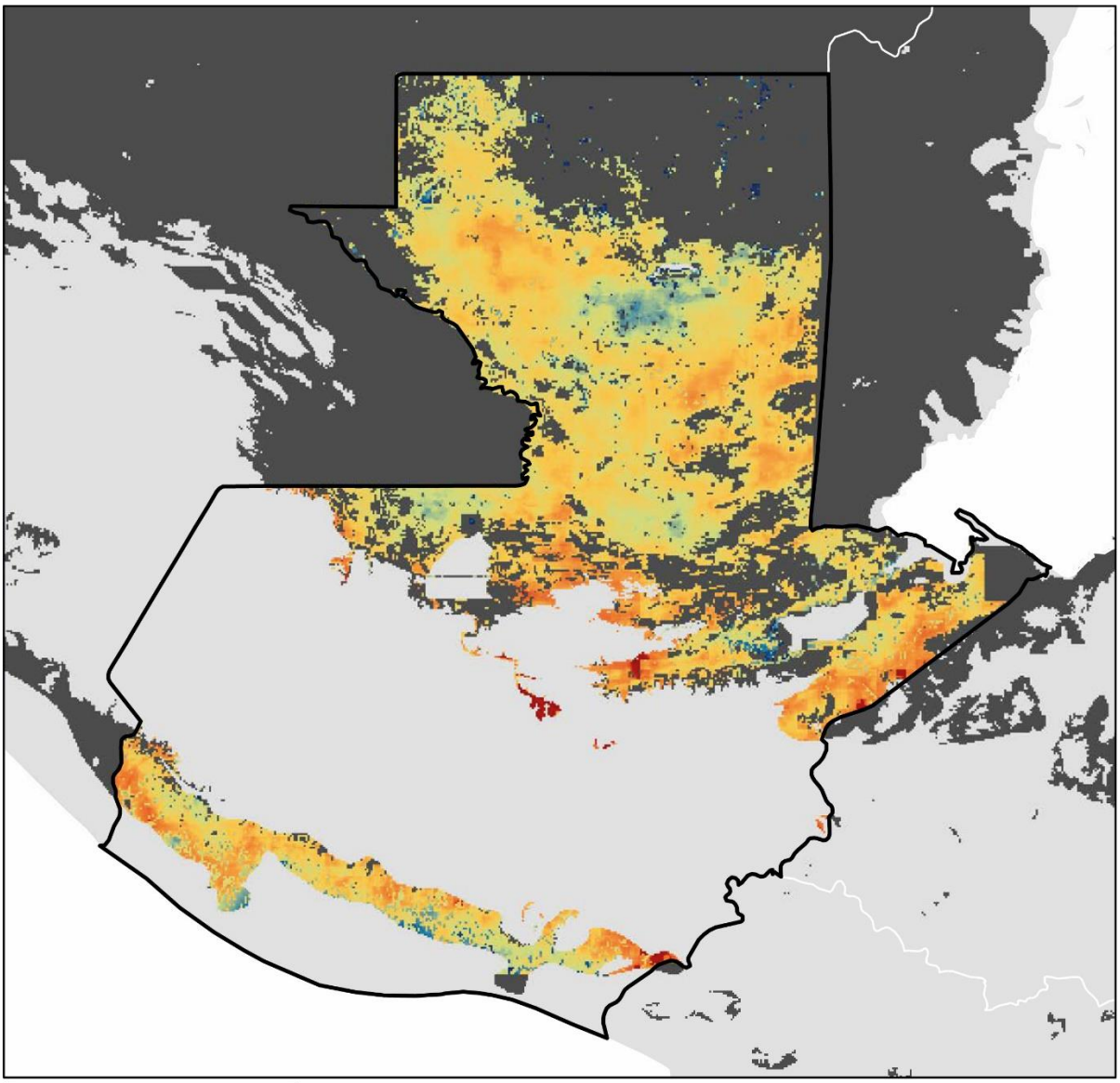
0
0.5
1
Restoration opportunity score
Ghana
0 25 50 100
Km

Guatemala



Non-restorable area

0

0.5

1

Restoration opportunity score

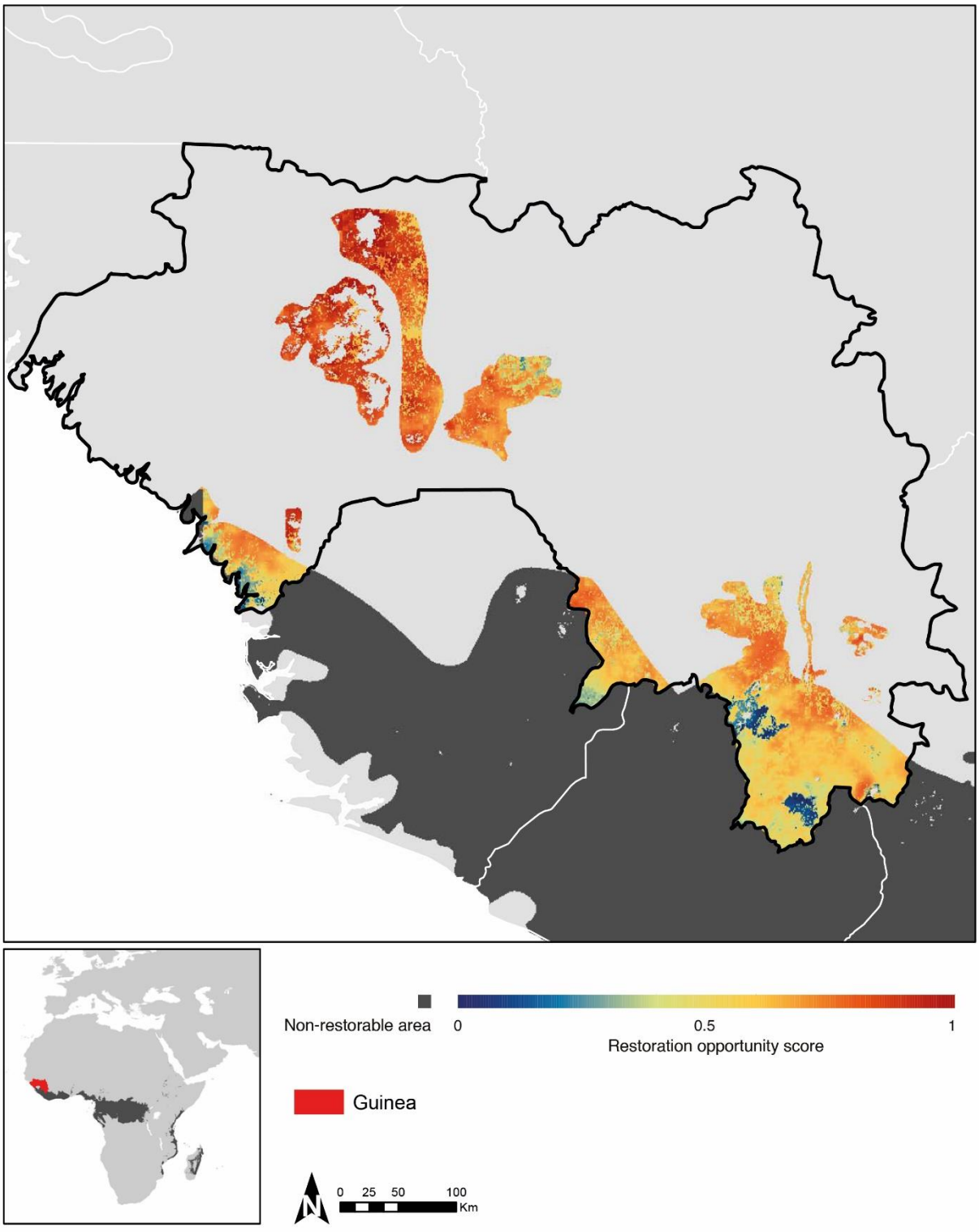
Guatemala

N

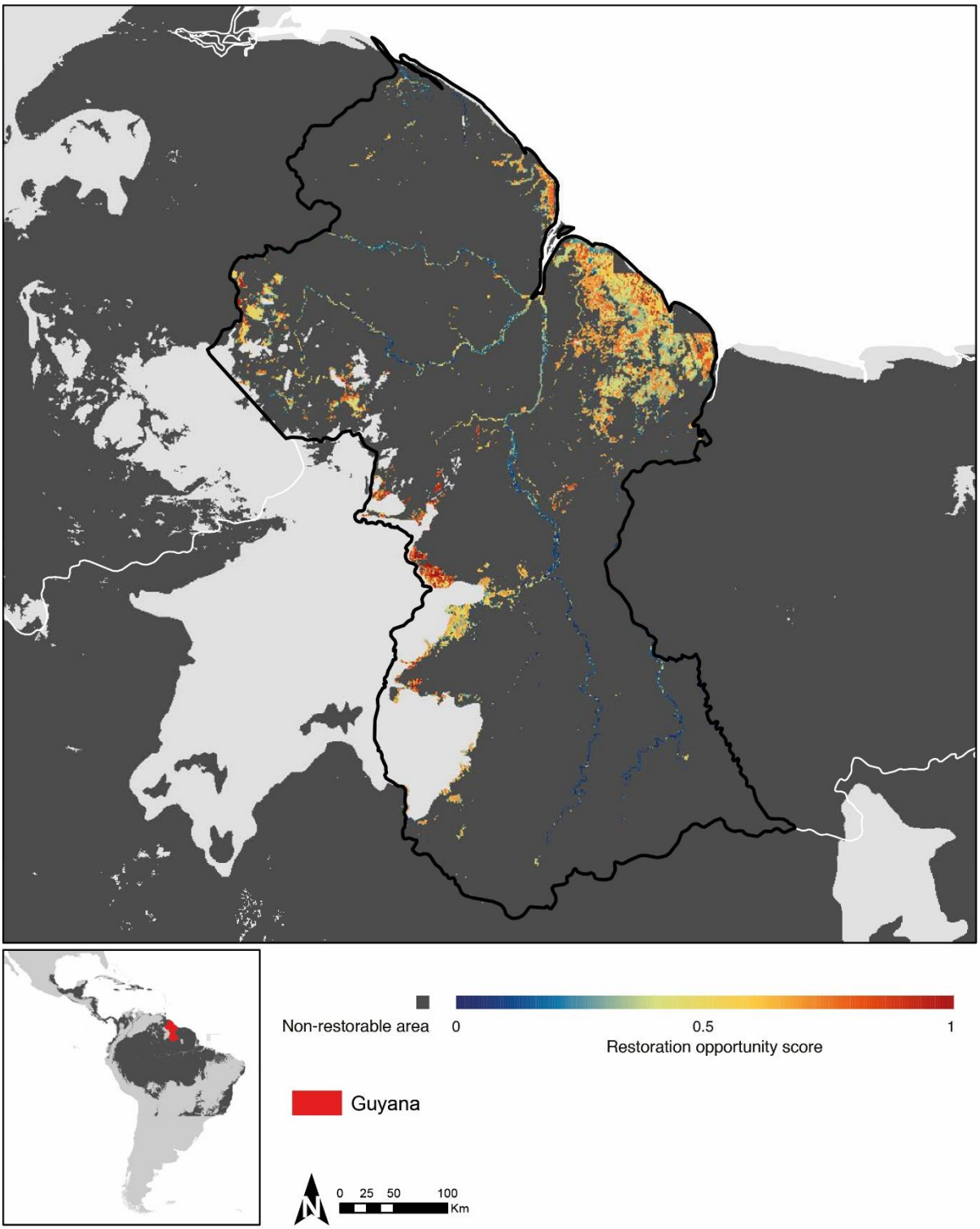
0 25 50 100

Km

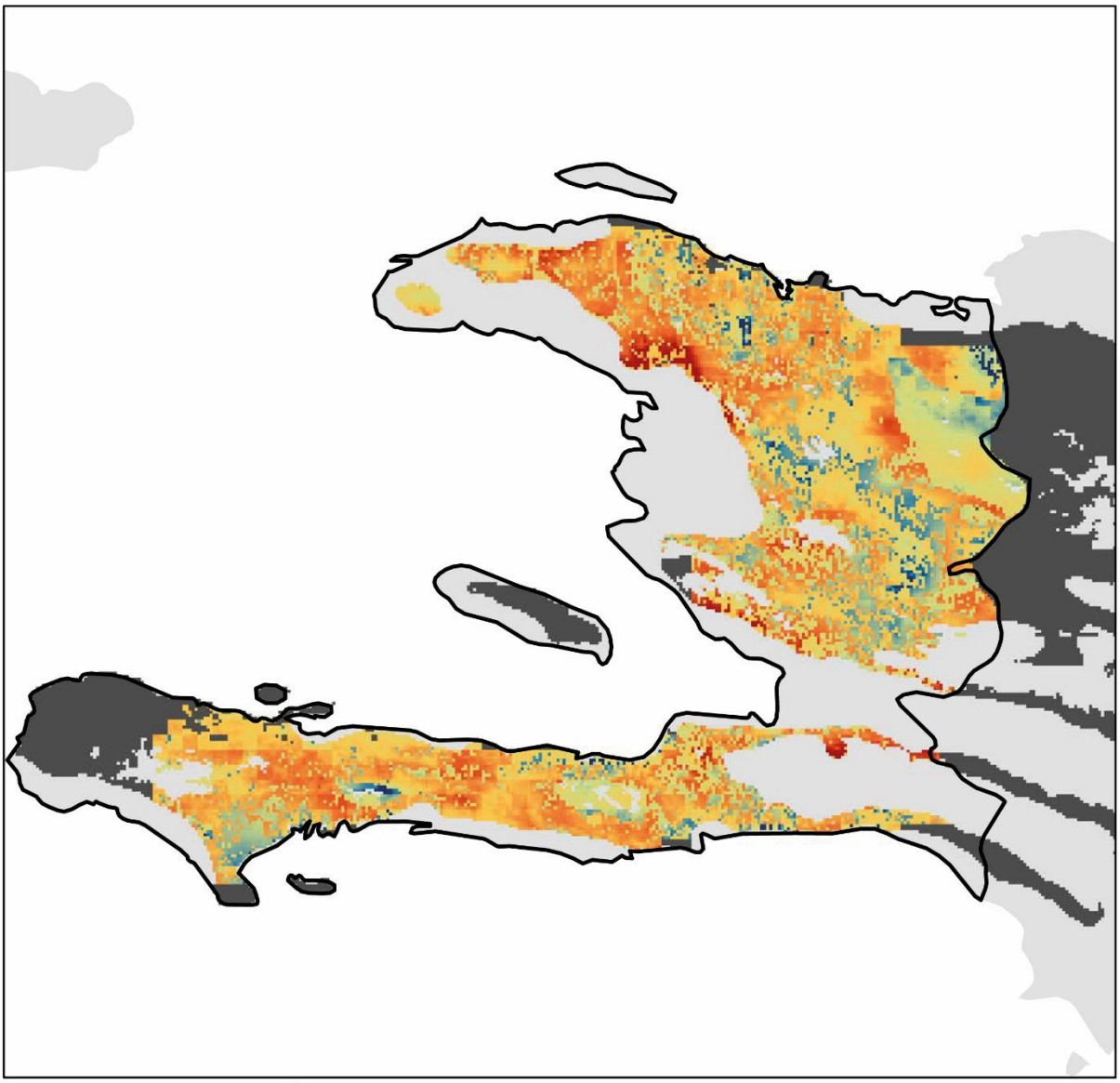
Guinea


Non-restorable area
0
0.5
1
Restoration opportunity score
Guinea
0 25 50 100
Km

Guyana

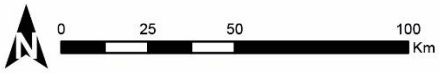

Non-restorable area
0
0.5
1
Restoration opportunity score
Guyana
0 25 50 100
Km

Haiti

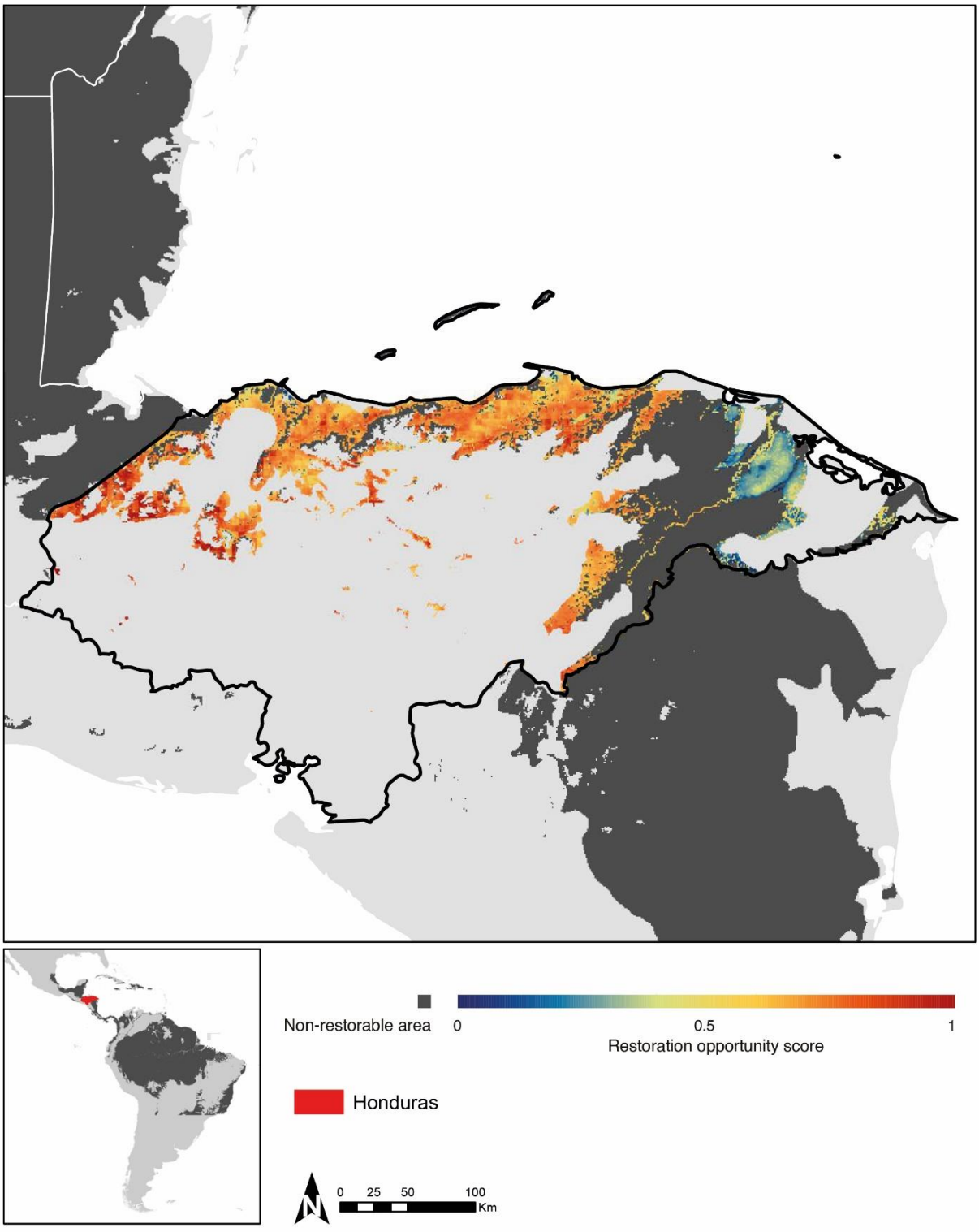



Non-restorable area
0
0.5
1
Restoration opportunity score

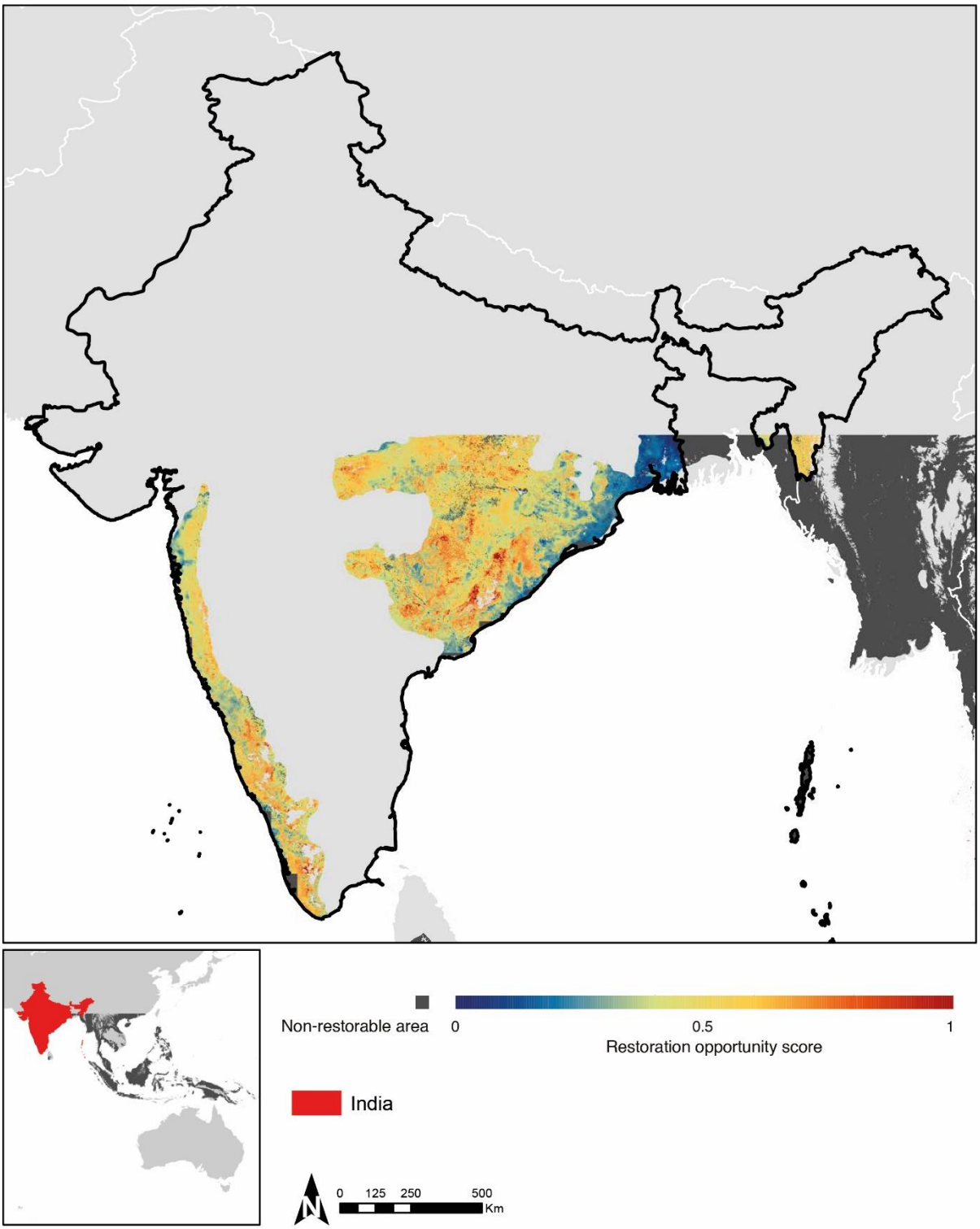
Haiti


N
0
25
50
100
Km

Honduras


Non-restorable area
0
0.5
1
Restoration opportunity score
Honduras
0 25 50 100
Km

India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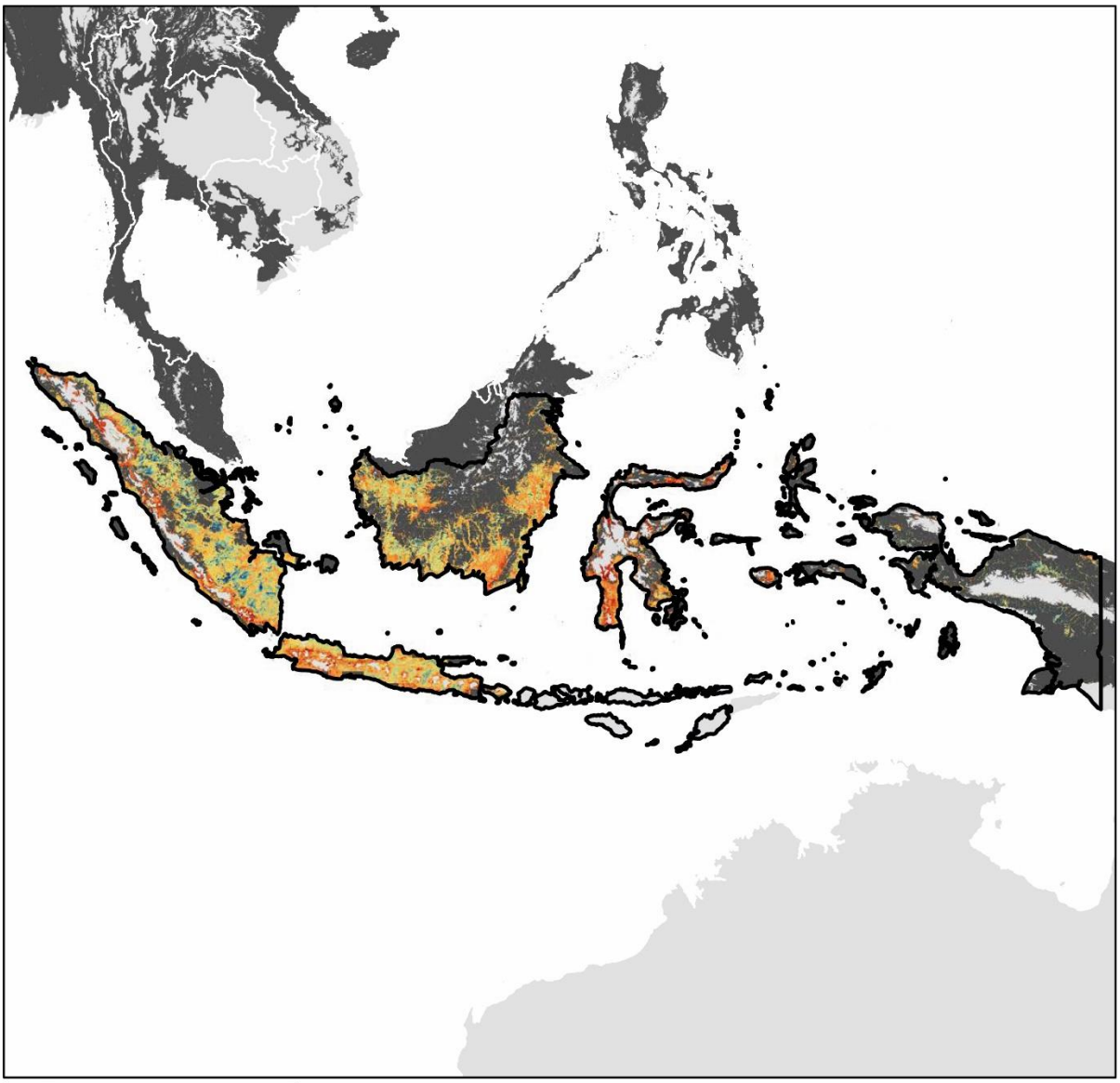
0
0.5
1
Restoration opportunity score
India
0 125 250 500
Km

Indonesia



Non-restorable area

0

0.5

1

Restoration opportunity score

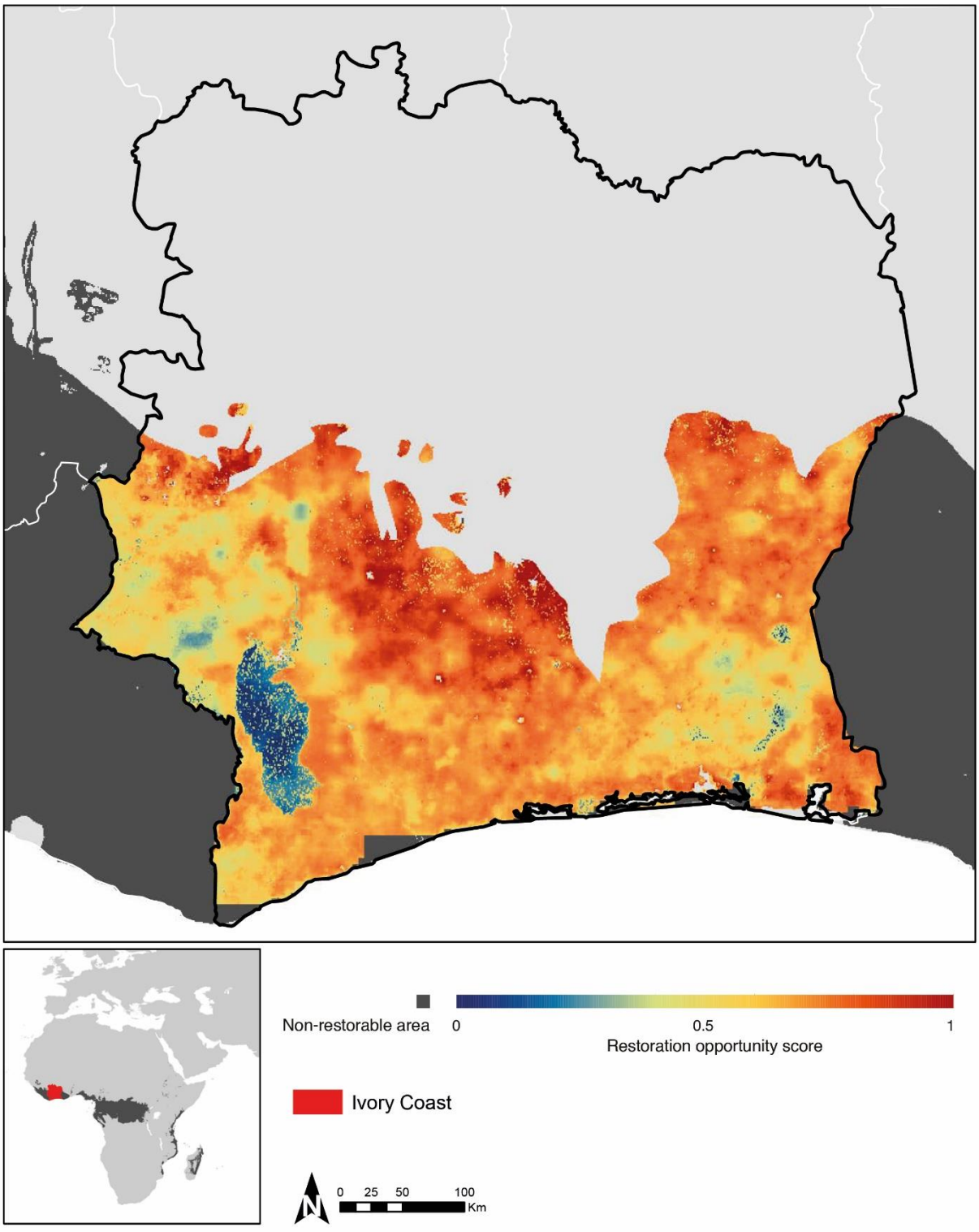
Indonesia

N

0 250 500 1.000

Km

Ivory Coast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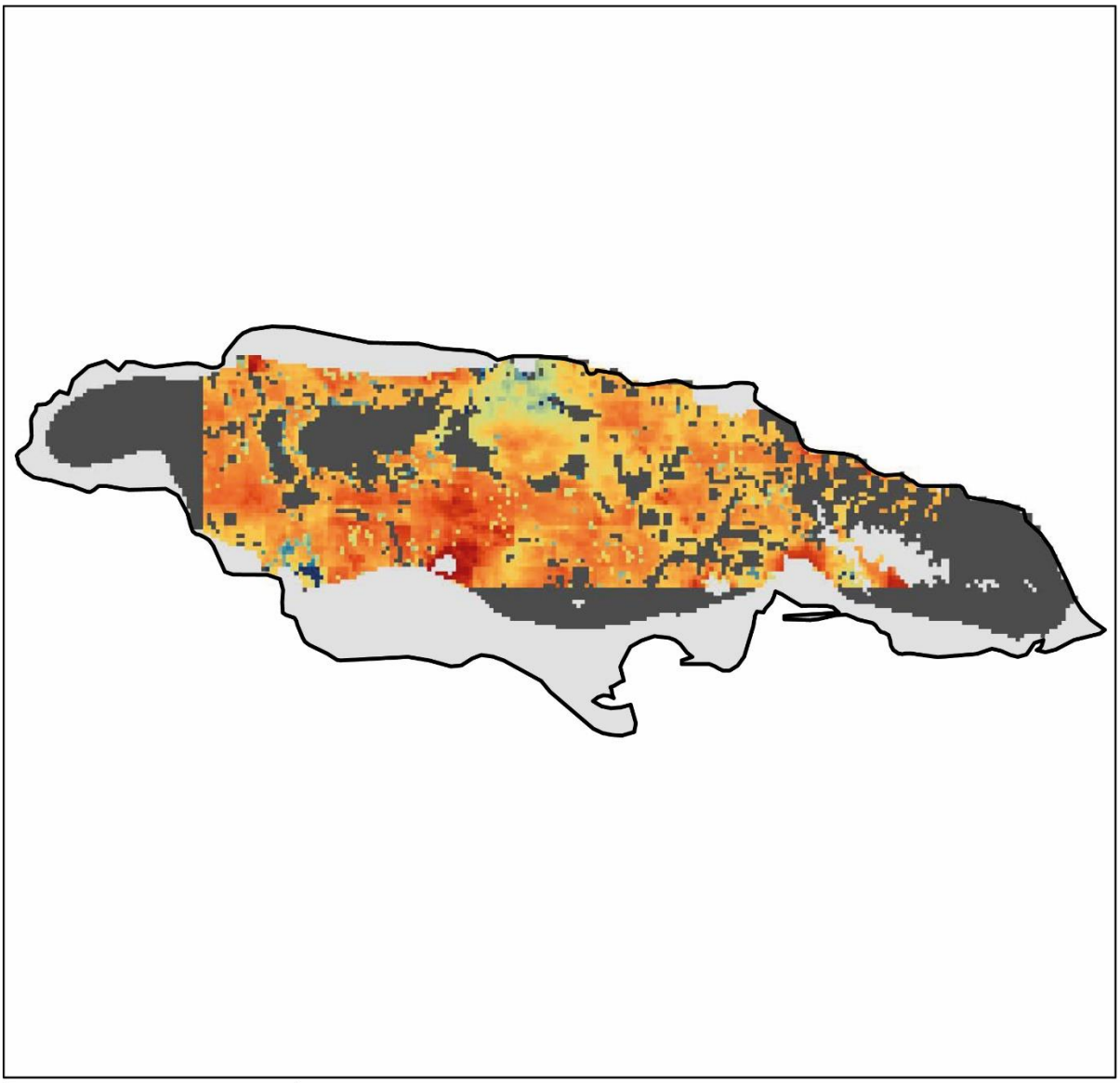
0
0.5
1
Restoration opportunity score
Ivory Coast
N
0 25 50 100
Km

Jamaica



Non-restorable area

0 0.5 1

Restoration opportunity score

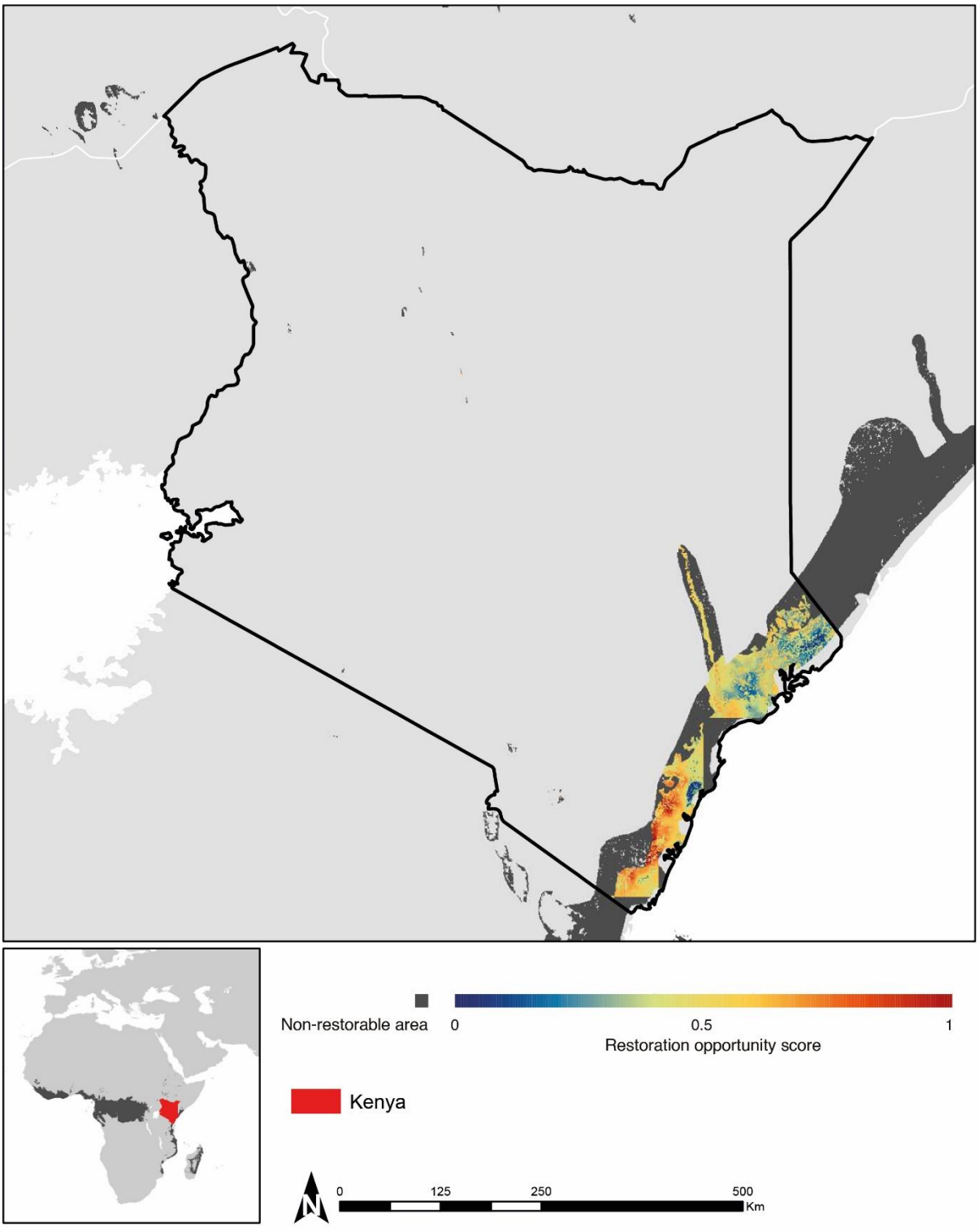
Jamaica

N

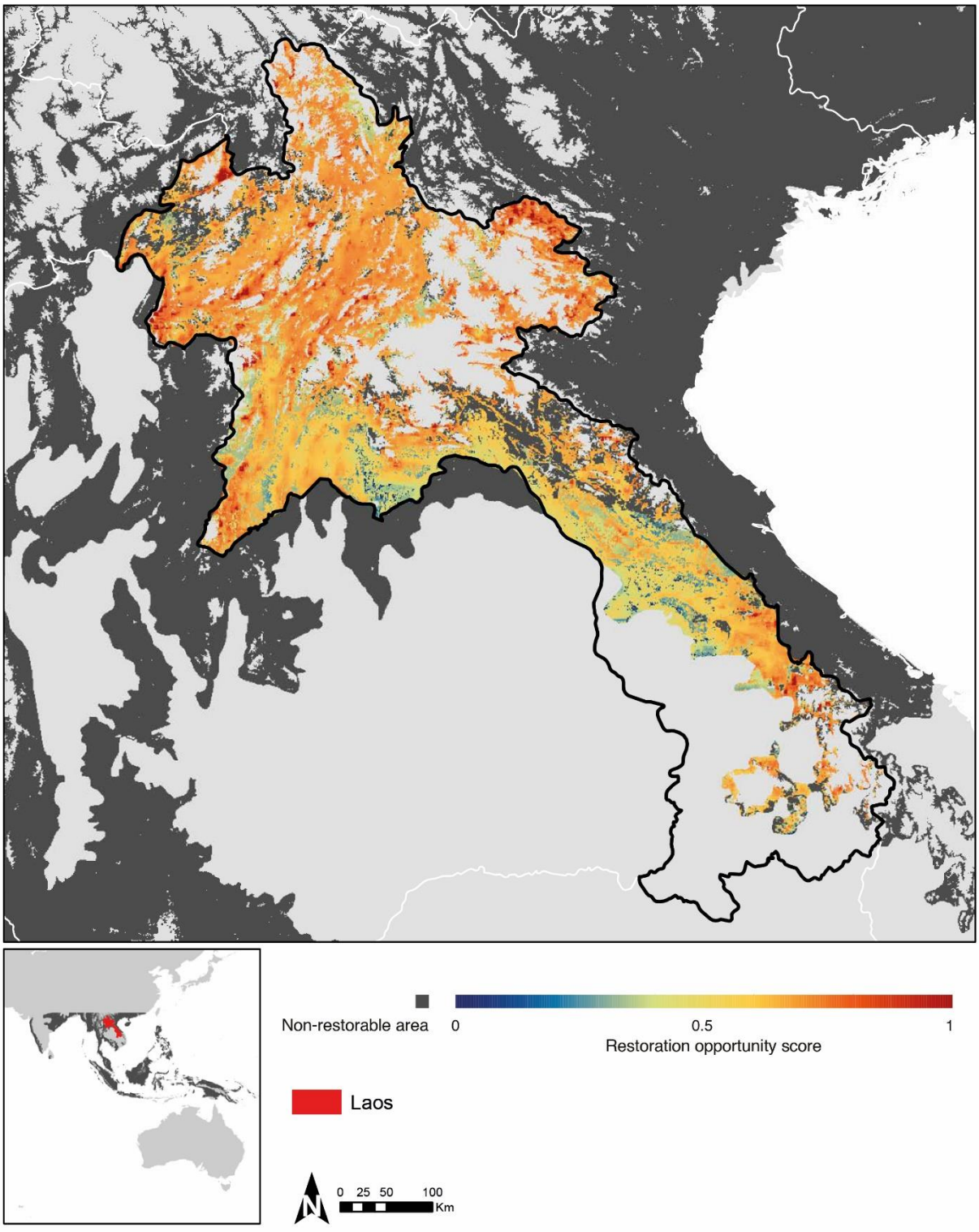
0 25 50 100

Km

Kenya


Non-restorable area
0
0.5
1
Restoration opportunity score
Kenya
N
0
125
250
500
Km

Laos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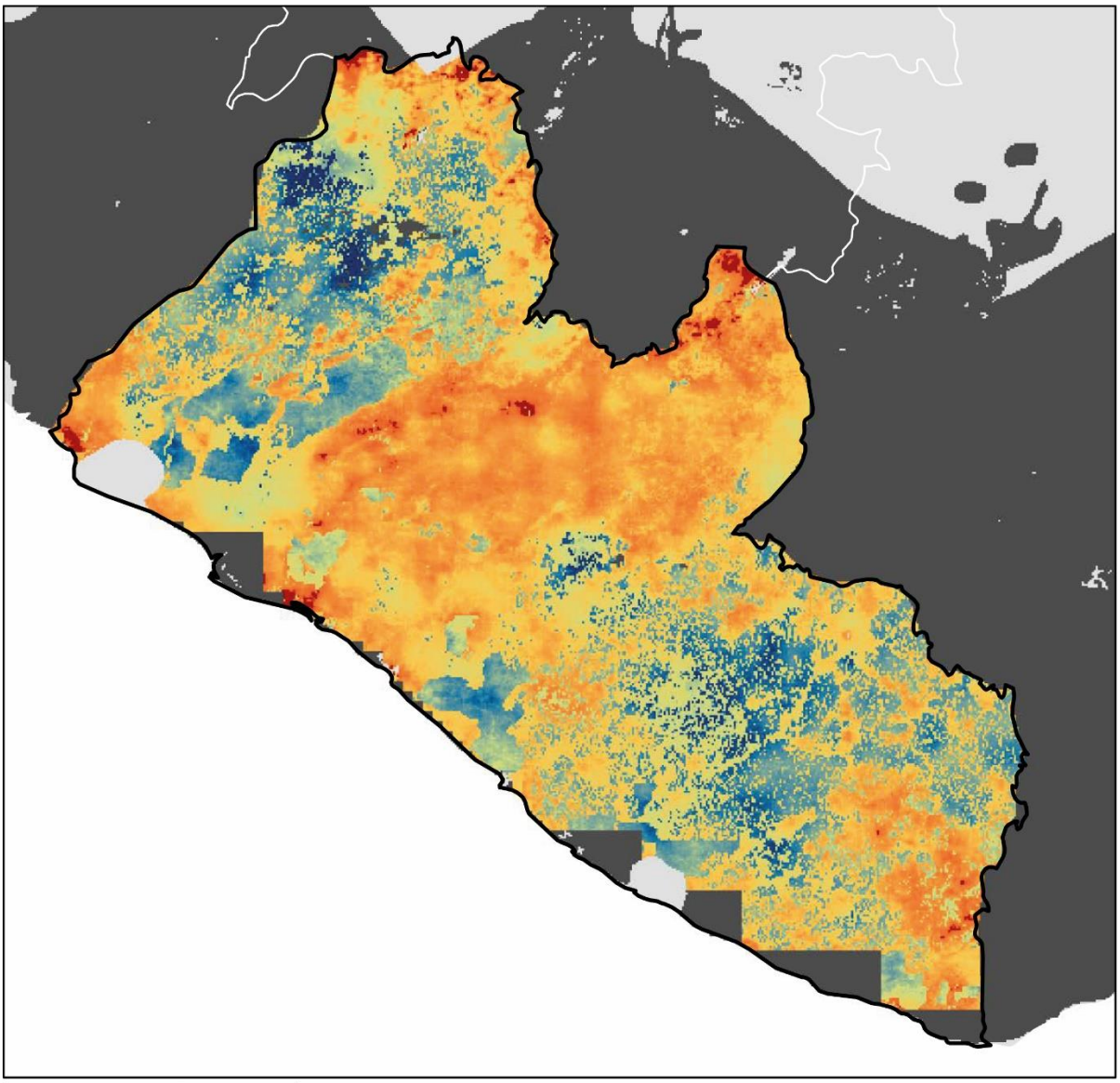
0
0.5
1
Restoration opportunity score
Laos
0 25 50 100
Km

Liberia



Non-restorable area

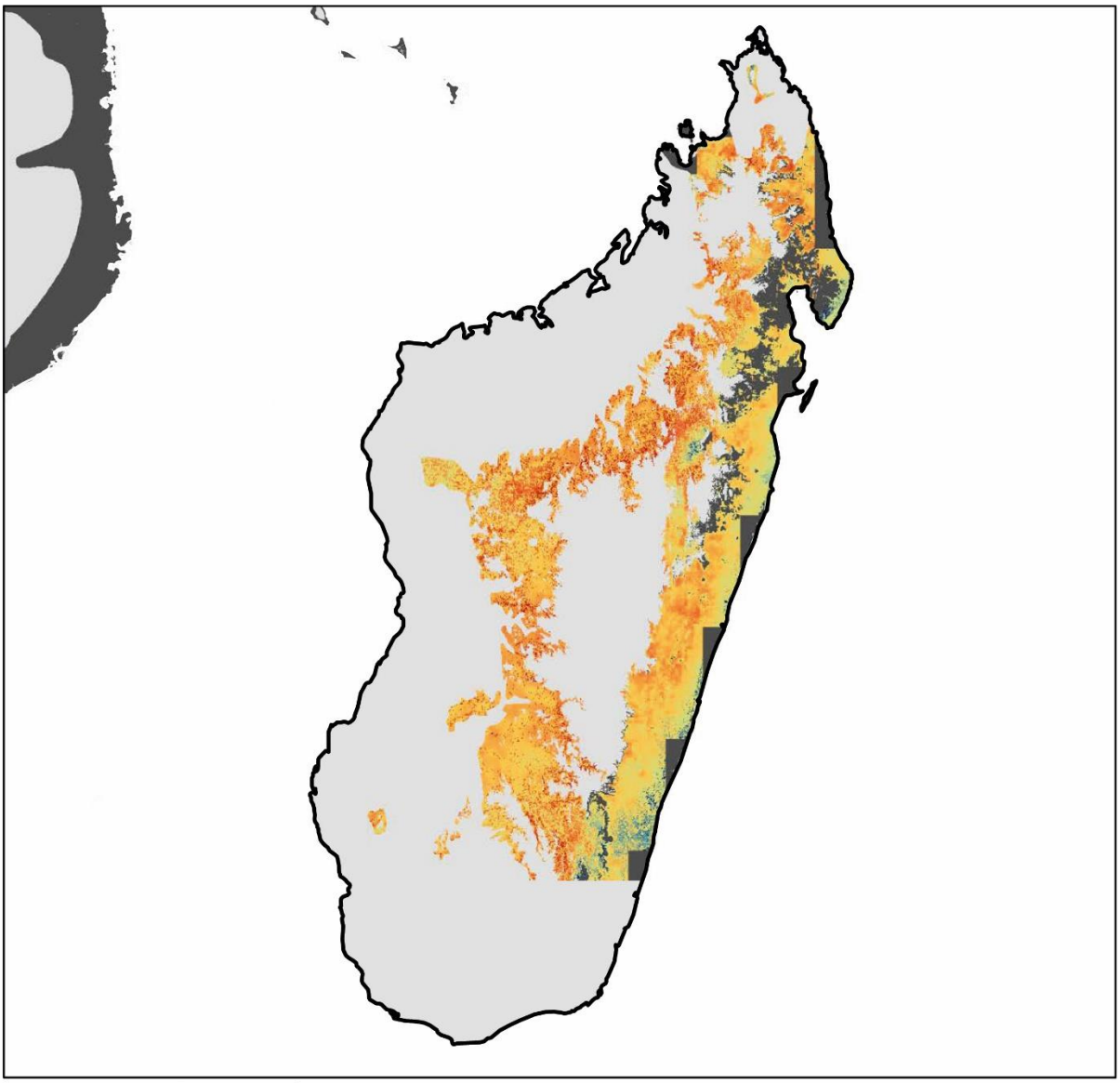
0 0.5 1

Restoration opportunity score

Liberia

0 25 50 100 Km

Madagascar



Non-restorable area 0 0.5 1

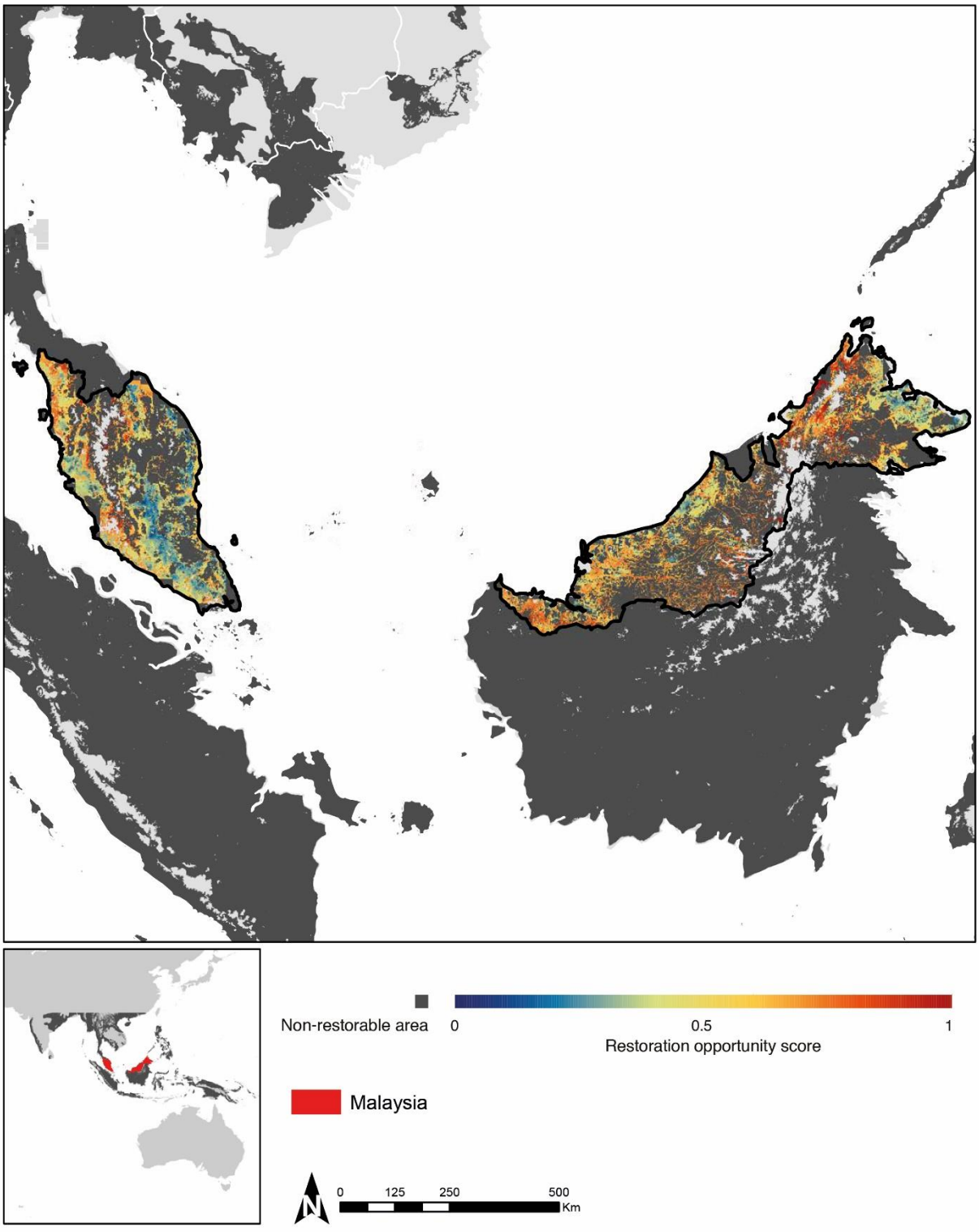
Restoration opportunity score

Madagascar

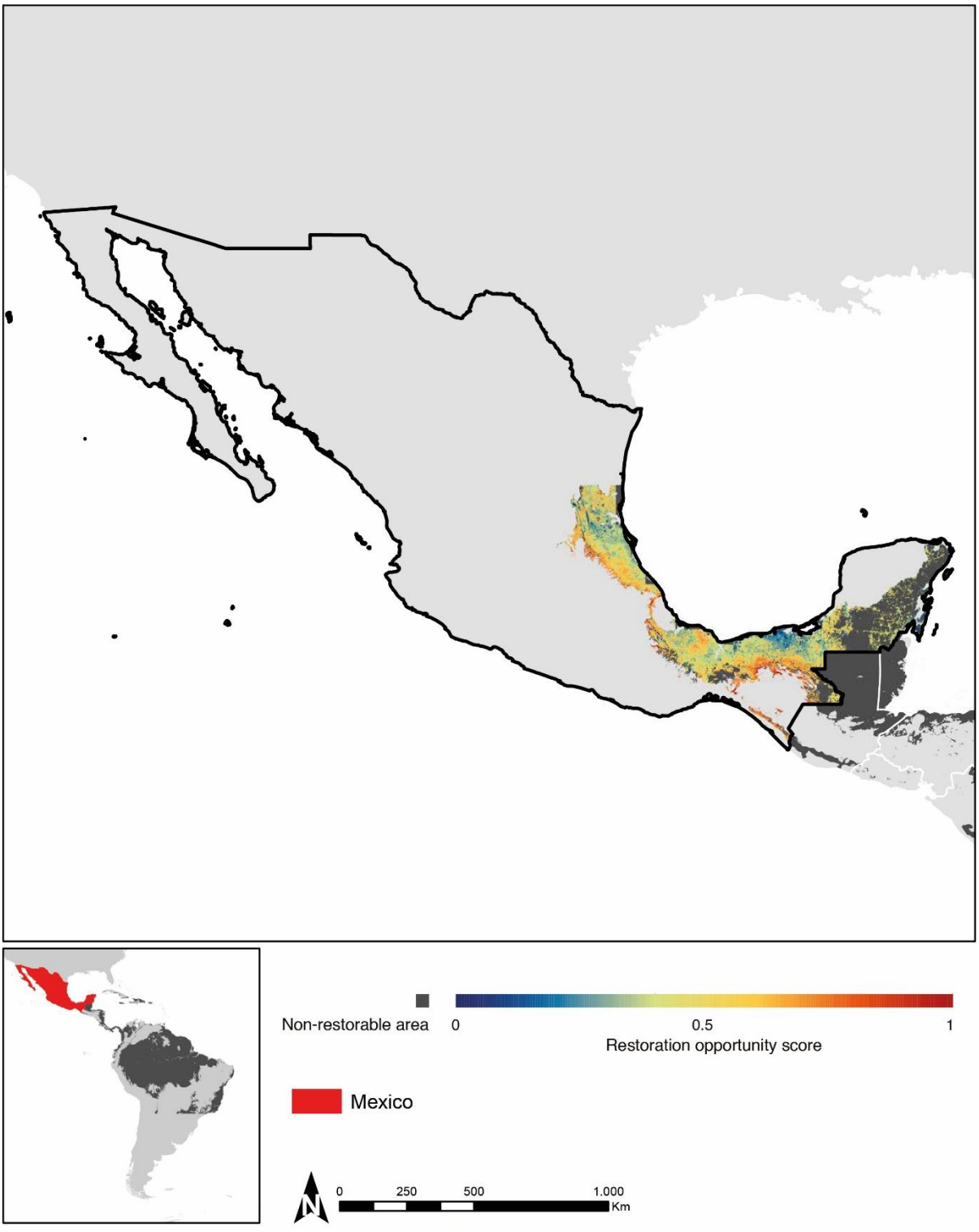
0 125 250 500

Km

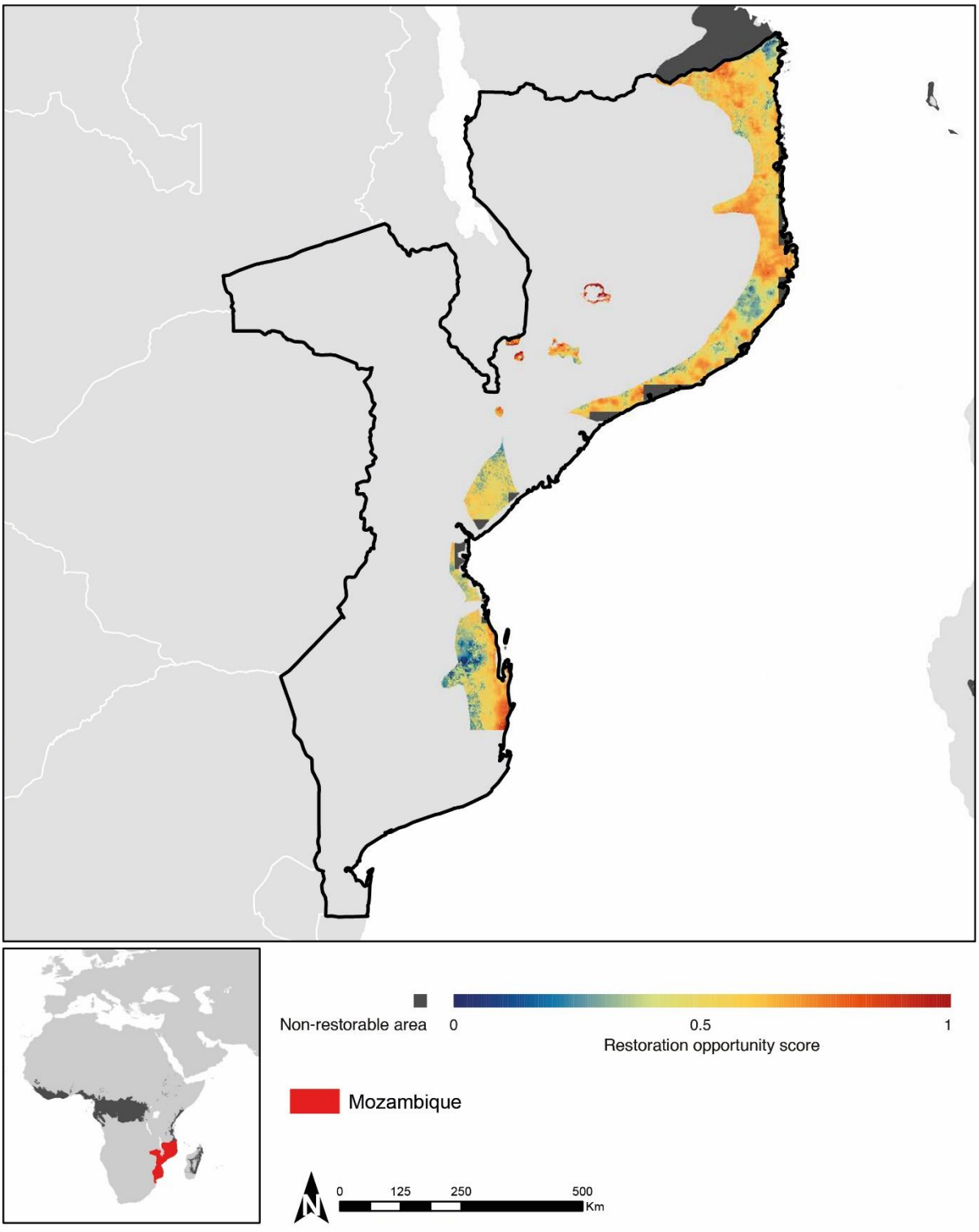
Malaysia


Non-restorable area
0
0.5
1
Restoration opportunity score
Malaysia
N
0
125
250
500
Km

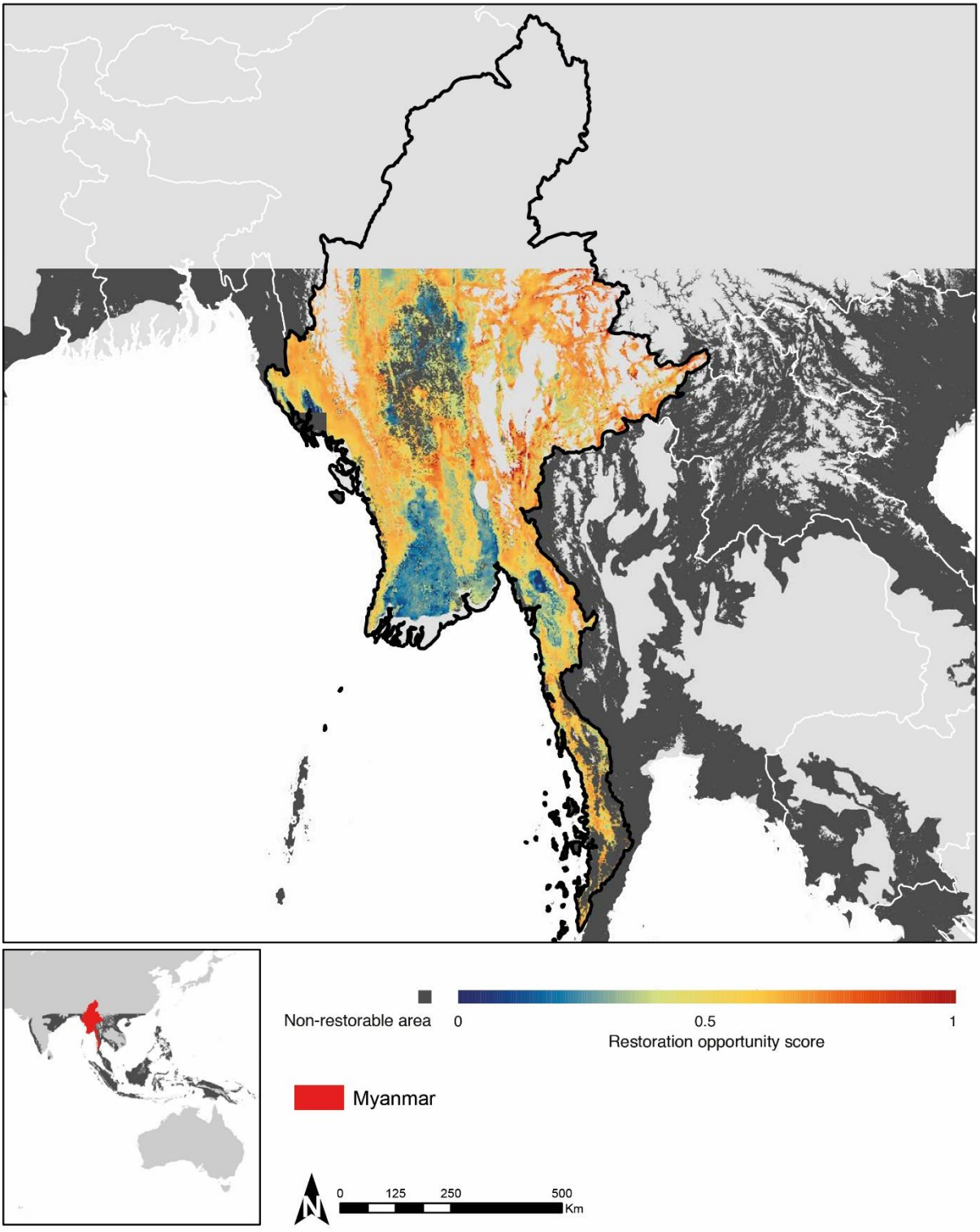
Mexico


Non-restorable area
0
0.5
1
Restoration opportunity score
Mexico
N
0
250
500
1.000
Km

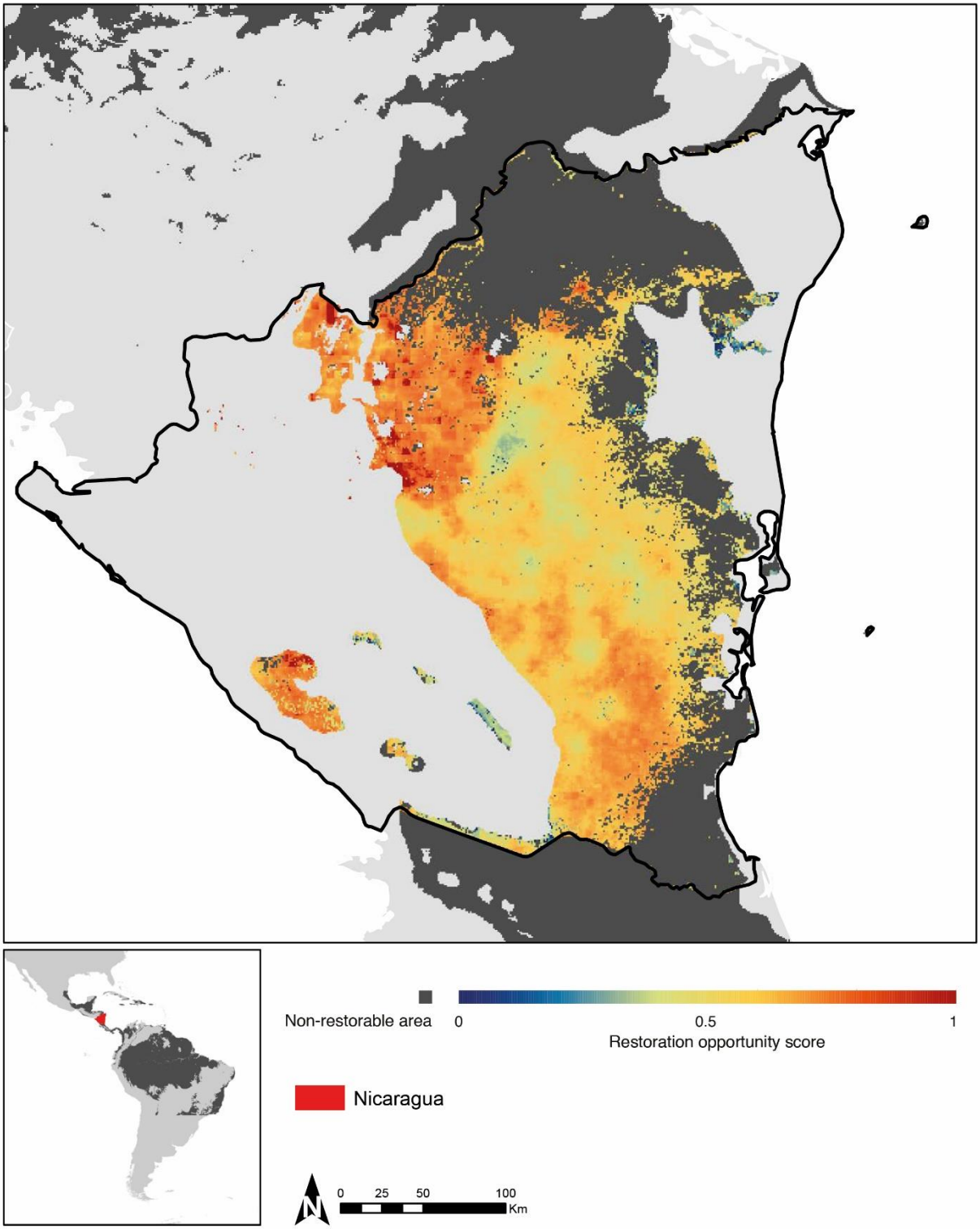
Mozambique


Non-restorable area
0
0.5
1
Restoration opportunity score
Mozambique
0
125
250
500
Km

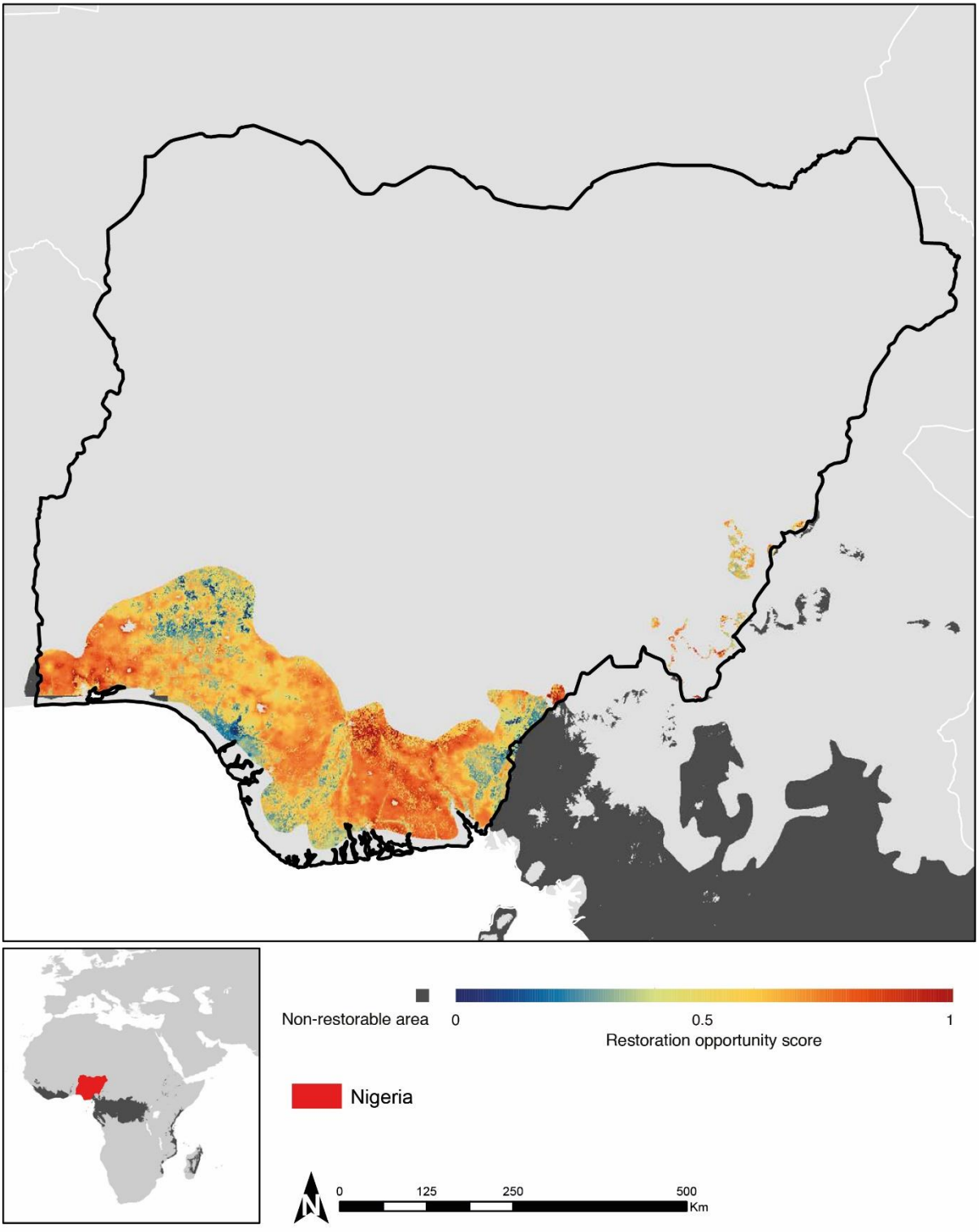
Myanmar


Non-restorable area
0
0.5
1
Restoration opportunity score
Myanmar
N
0
125
250
500
Km

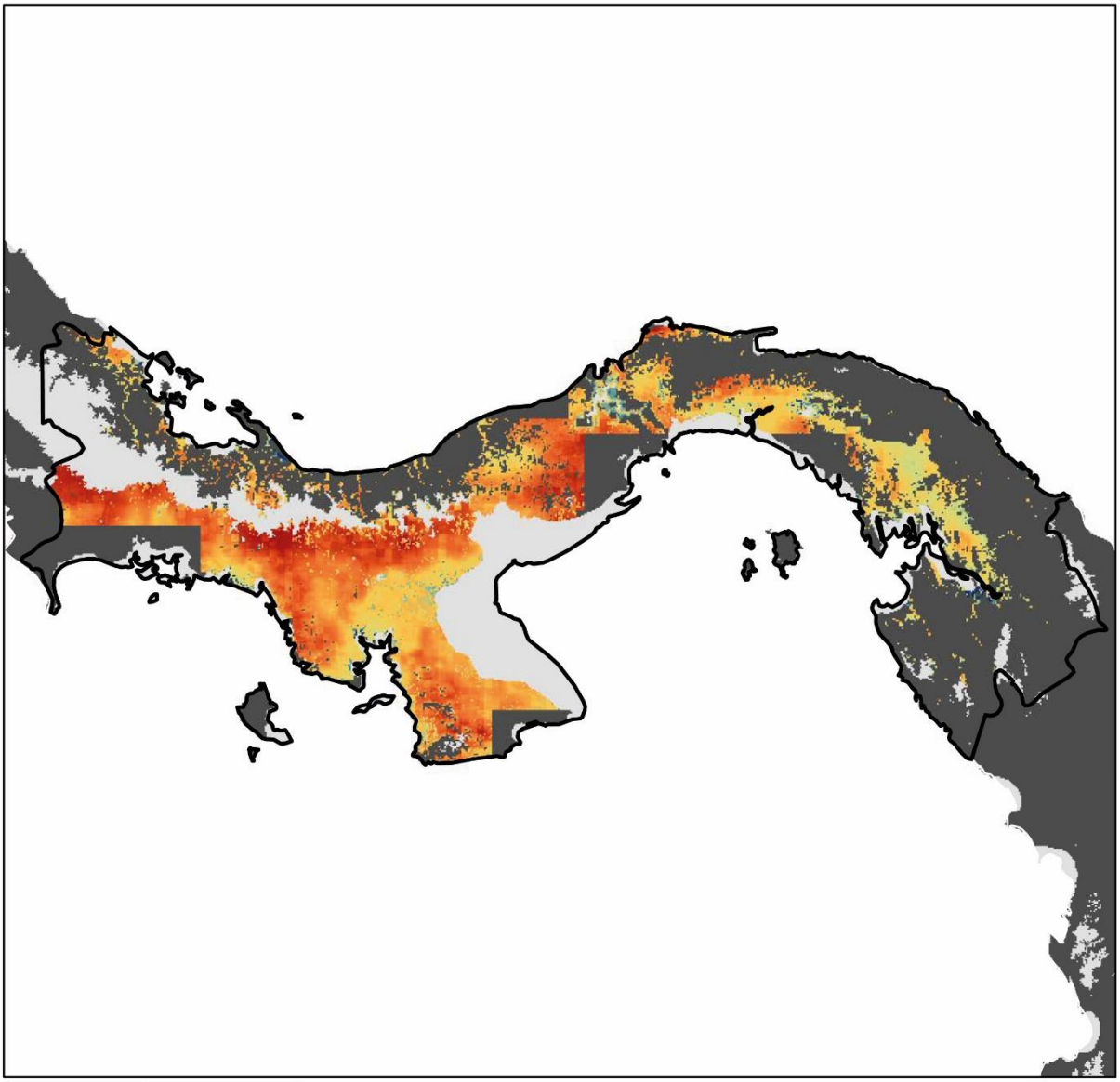
Nicaragua


Non-restorable area
0
0.5
1
Restoration opportunity score
Nicaragua
0 25 50 100
Km

Nigeria


Non-restorable area
0
0.5
1
Restoration opportunity score
Nigeria
0
125
250
500
Km

Panama



Non-restorable area

0 0.5 1

Restoration opportunity score

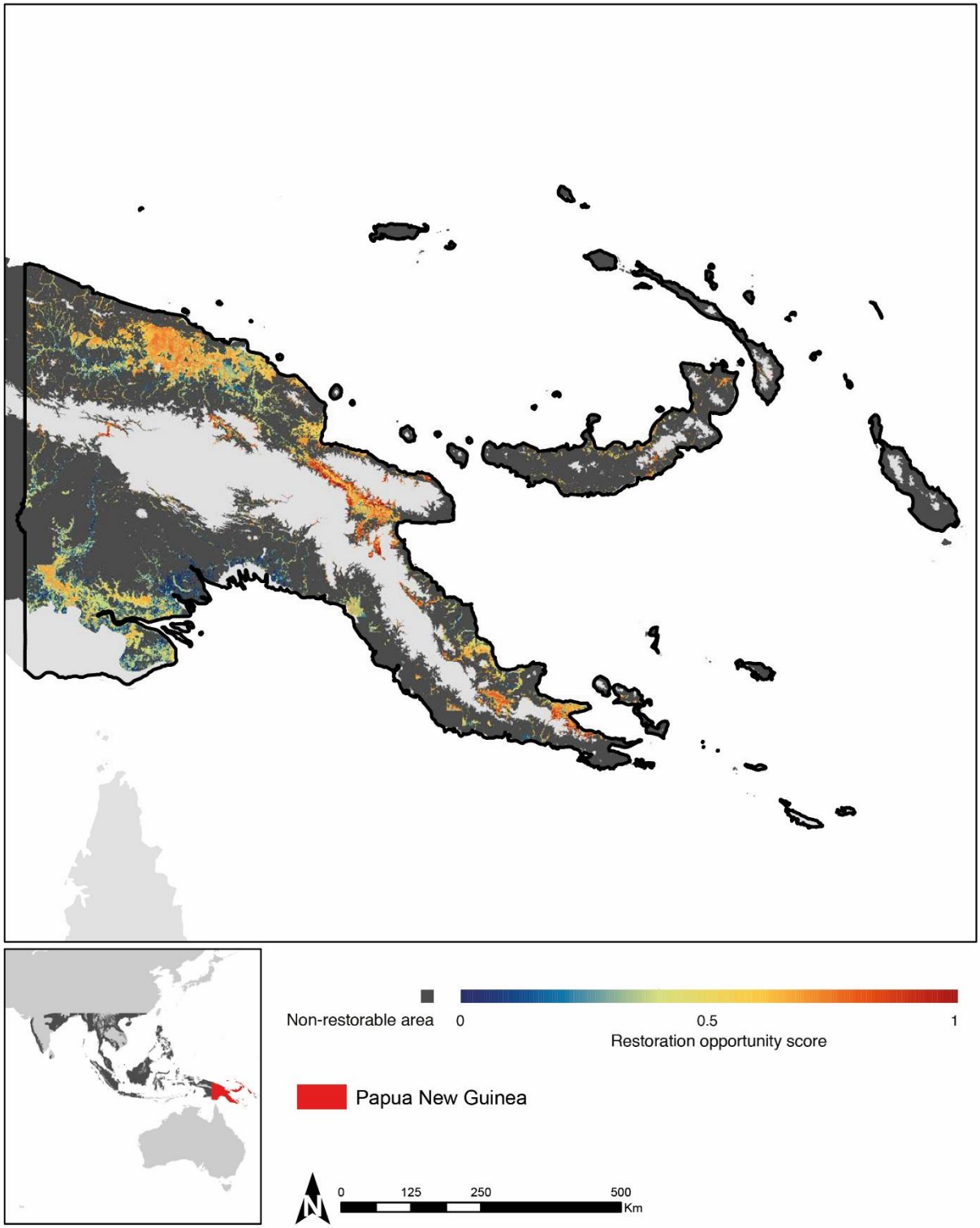
Panama

N

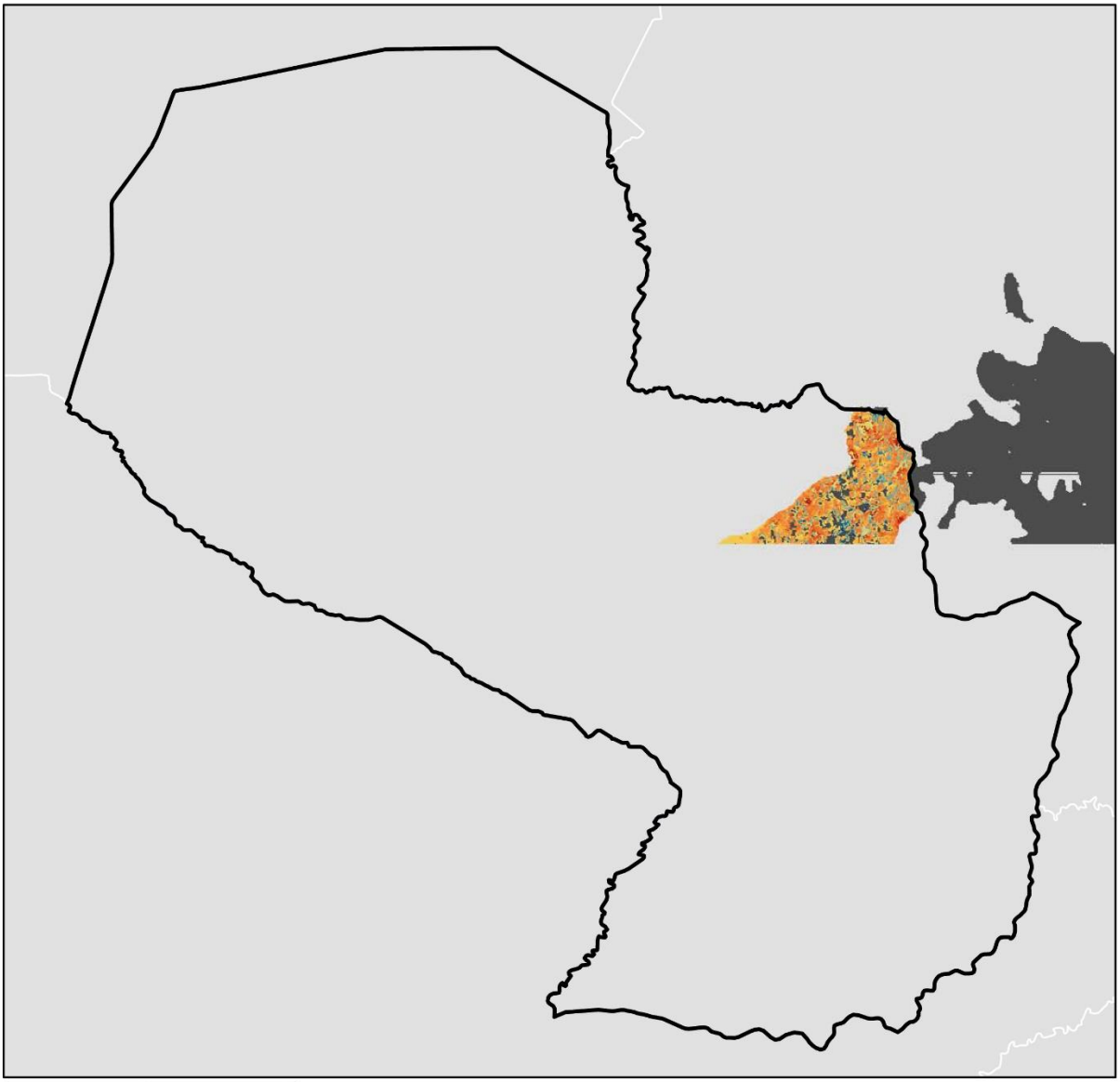
0 25 50 100

Km

Papua New Guinea



Paraguay



Non-restorable area

0 0.5 1

Restoration opportunity score

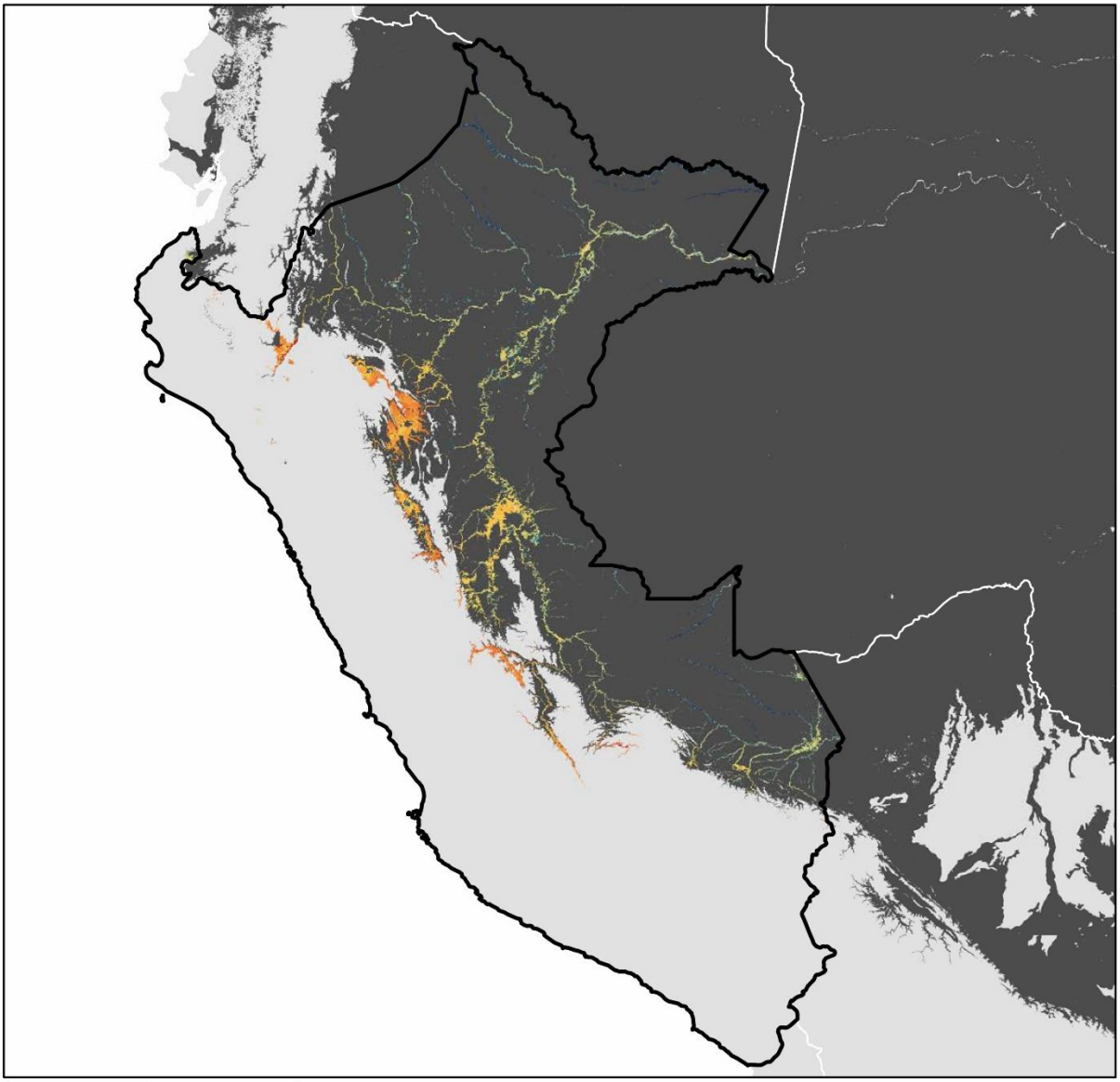
Paraguay

N

0 25 50 100

Km

Peru



Non-restorable area

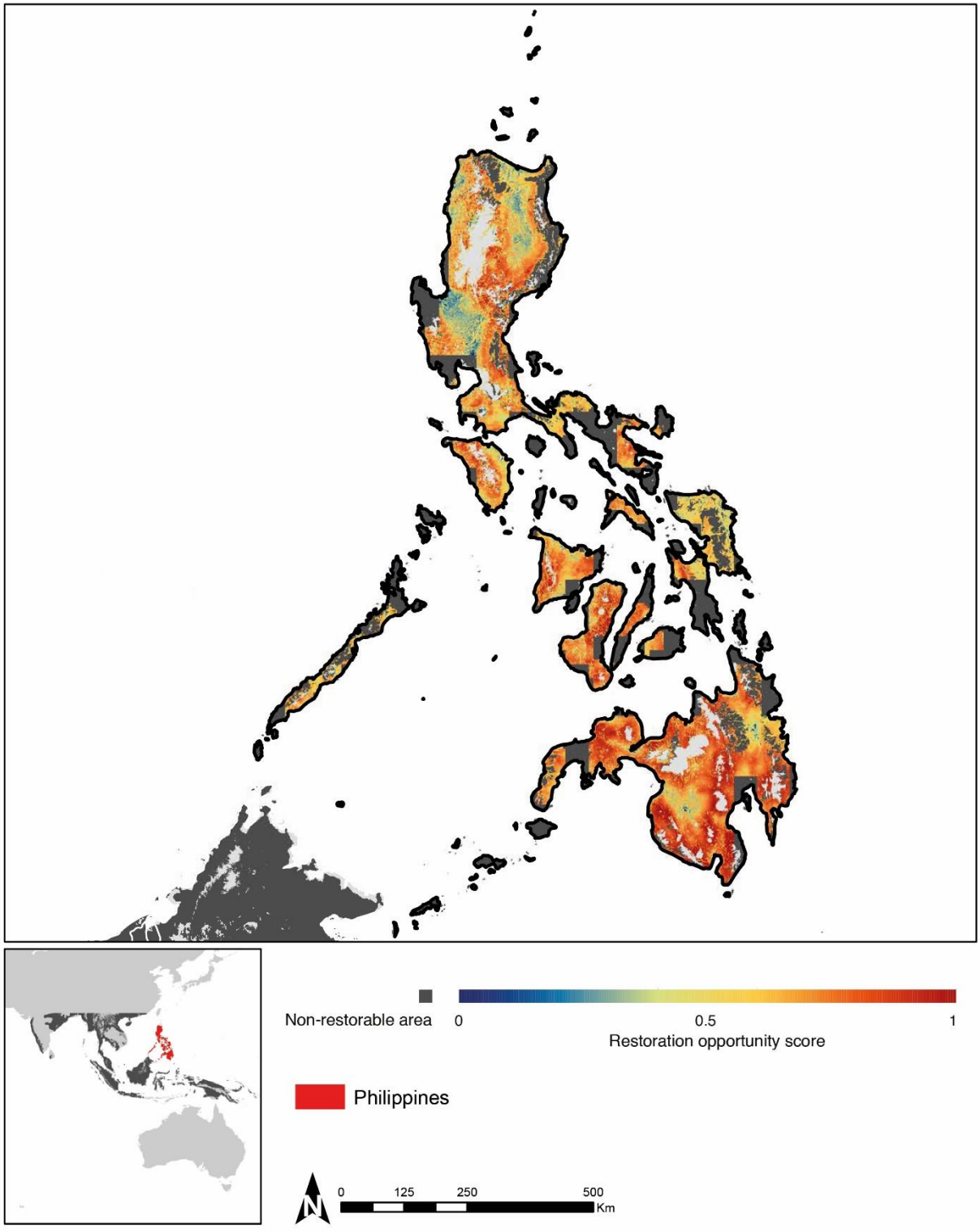
0 0.5 1

Restoration opportunity score

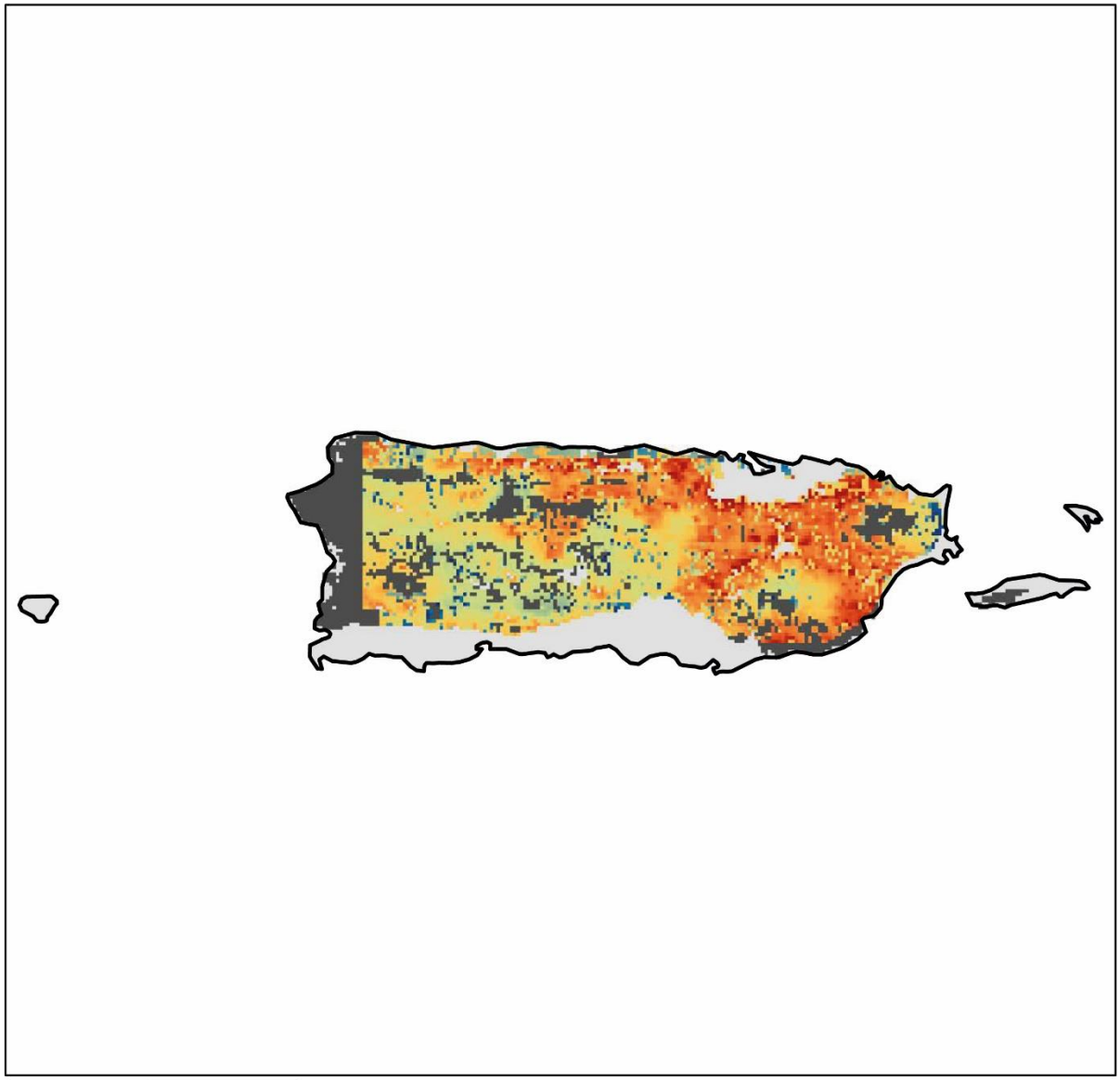
Peru

0 125 250 500 Km

Philippines



Puerto Rico



Non-restorable area

0 0.5 1

Restoration opportunity score

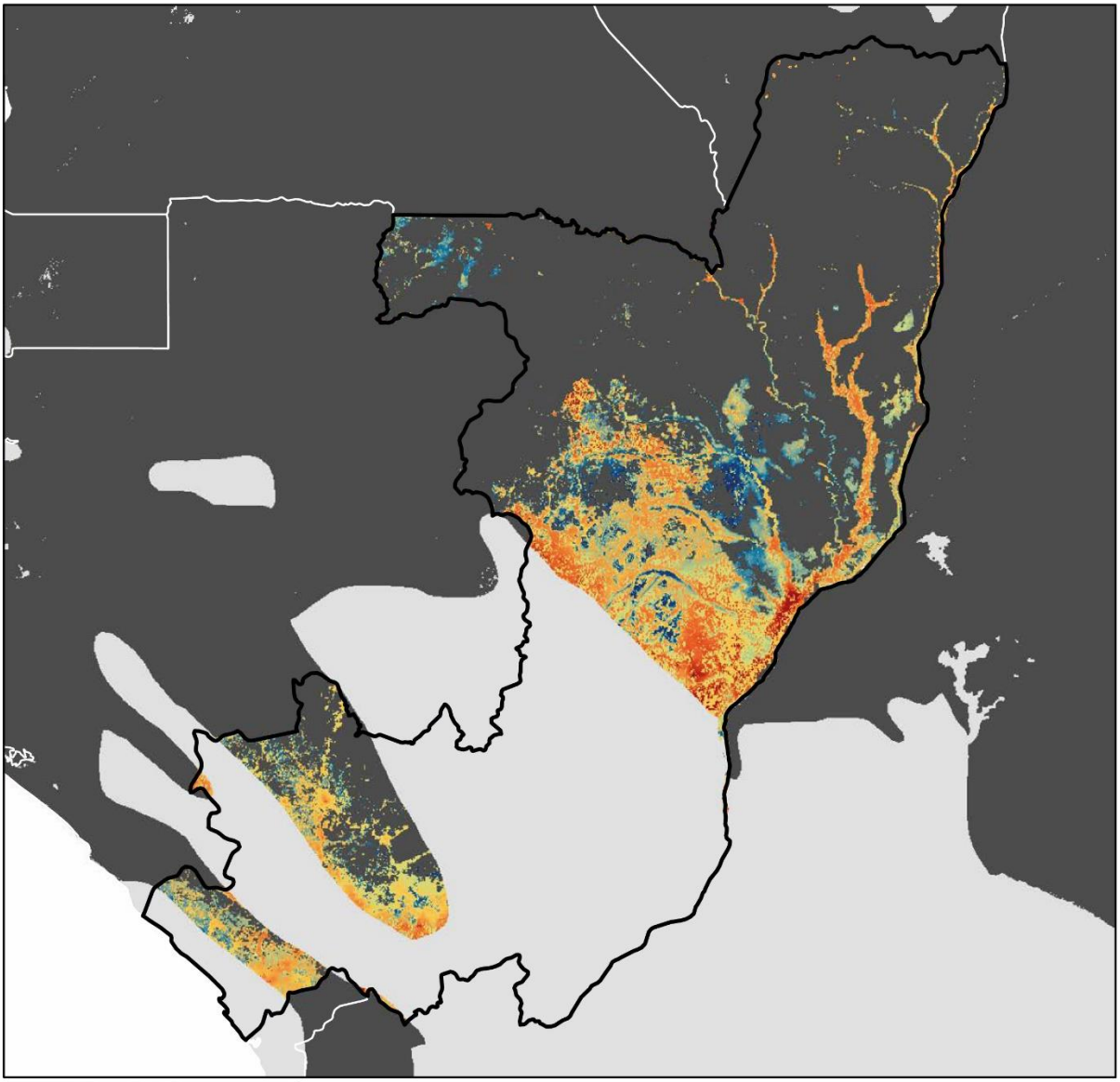
Puerto Rico

N

0 25 50 100

Km

Republic of the Congo



Non-restorable area

0 0.5 1

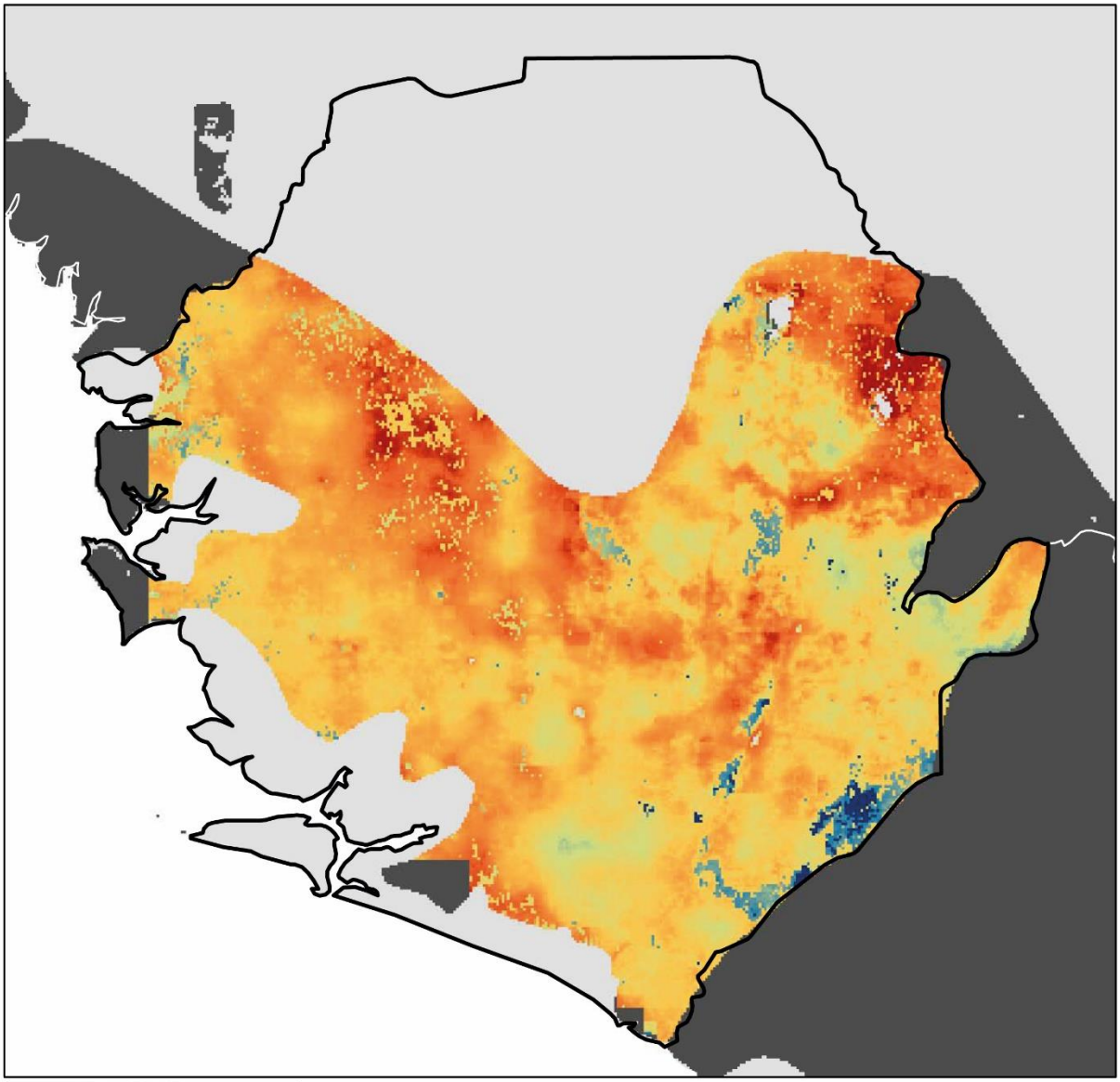
Restoration opportunity score

Republic of the Congo

0 125 250 500

Km

Sierra Leone



Non-restorable area 0 0.5 1

Restoration opportunity score

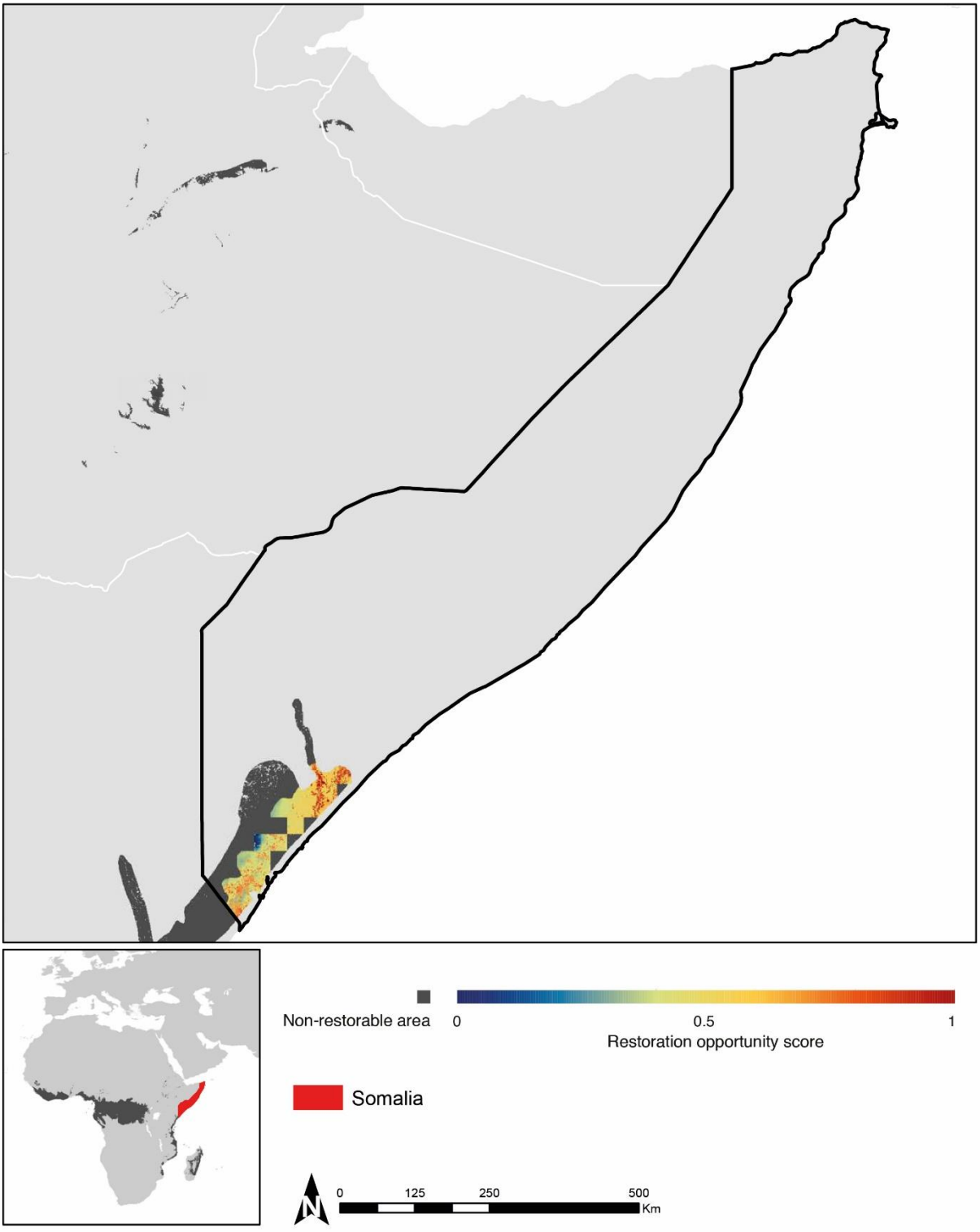
Sierra Leone

N

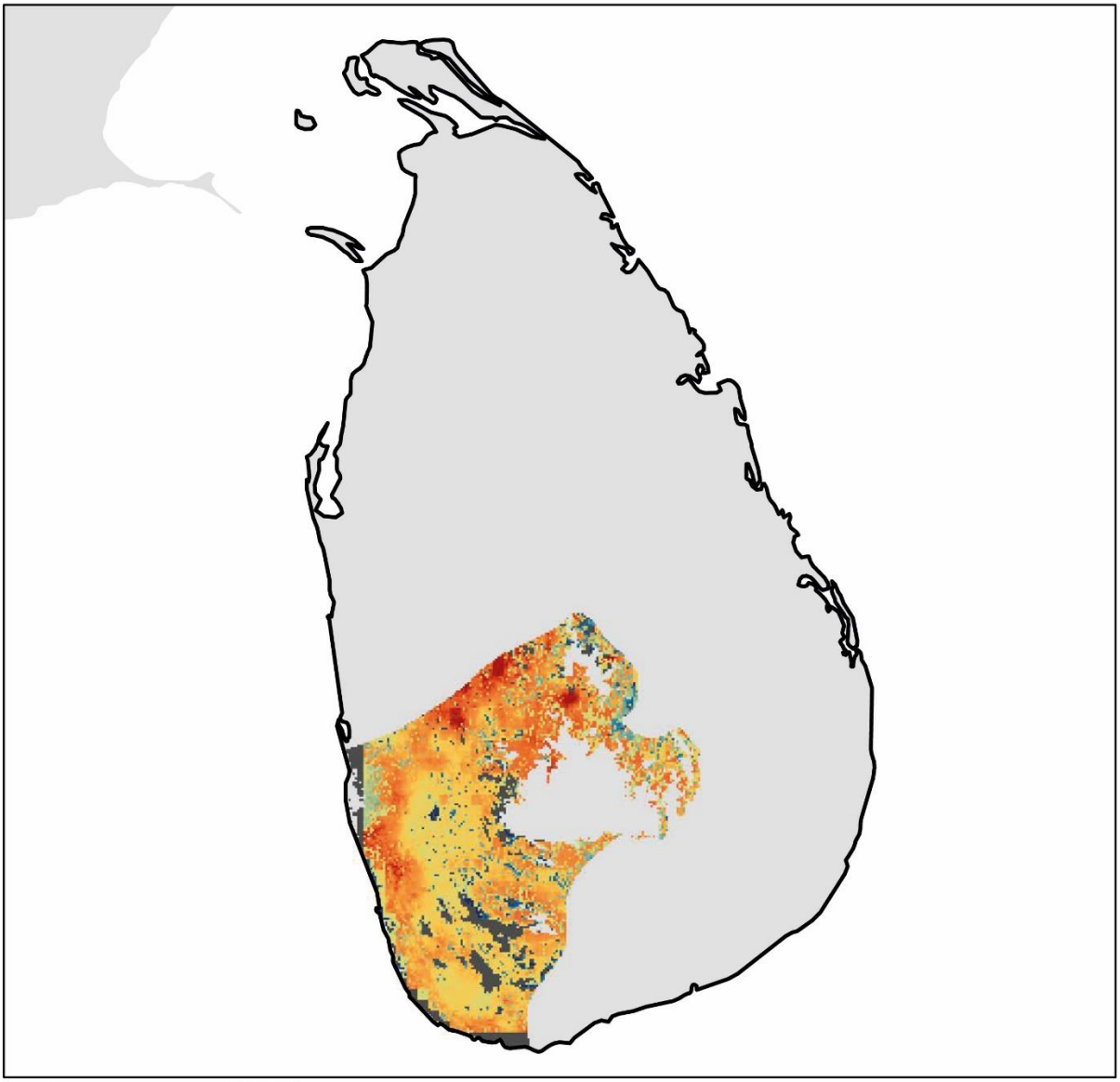
0 25 50 100

Km

Somalia


Non-restorable area
0
0.5
1
Restoration opportunity score
Somalia
N
0
125
250
500
Km

Sri Lanka



Non-restorable area

0

0.5

1

Restoration opportunity score

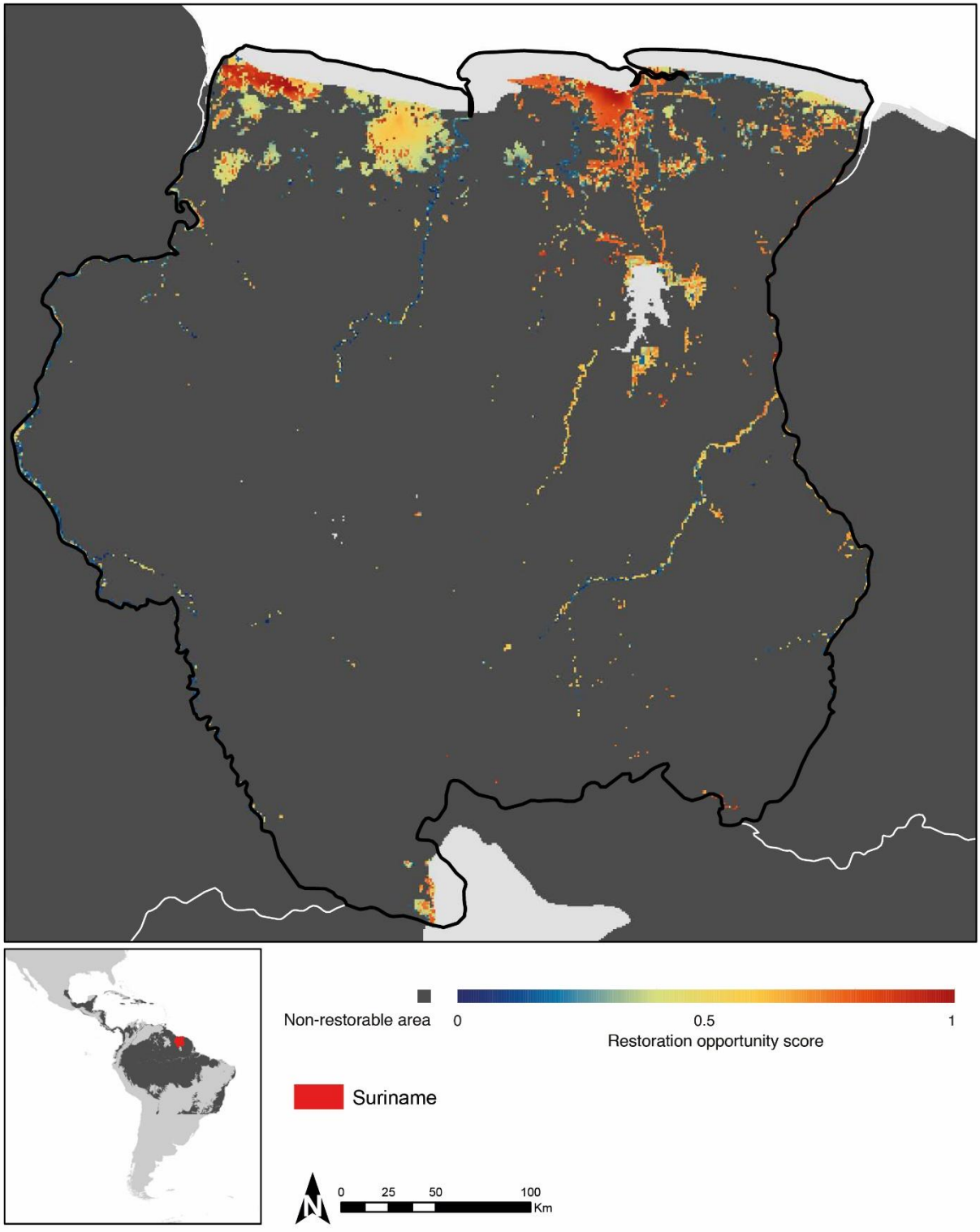
Sri Lanka

N

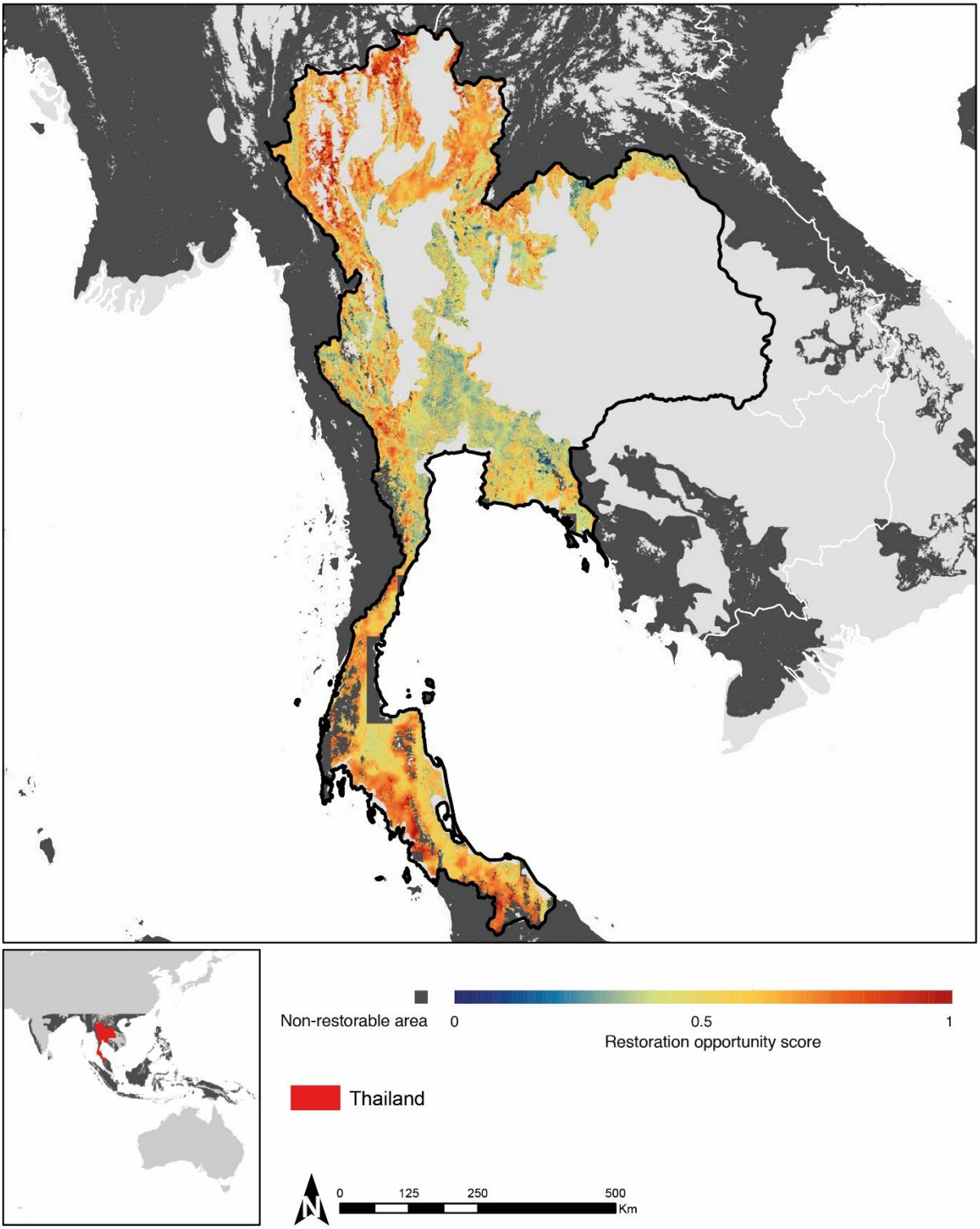
0 25 50 100

Km

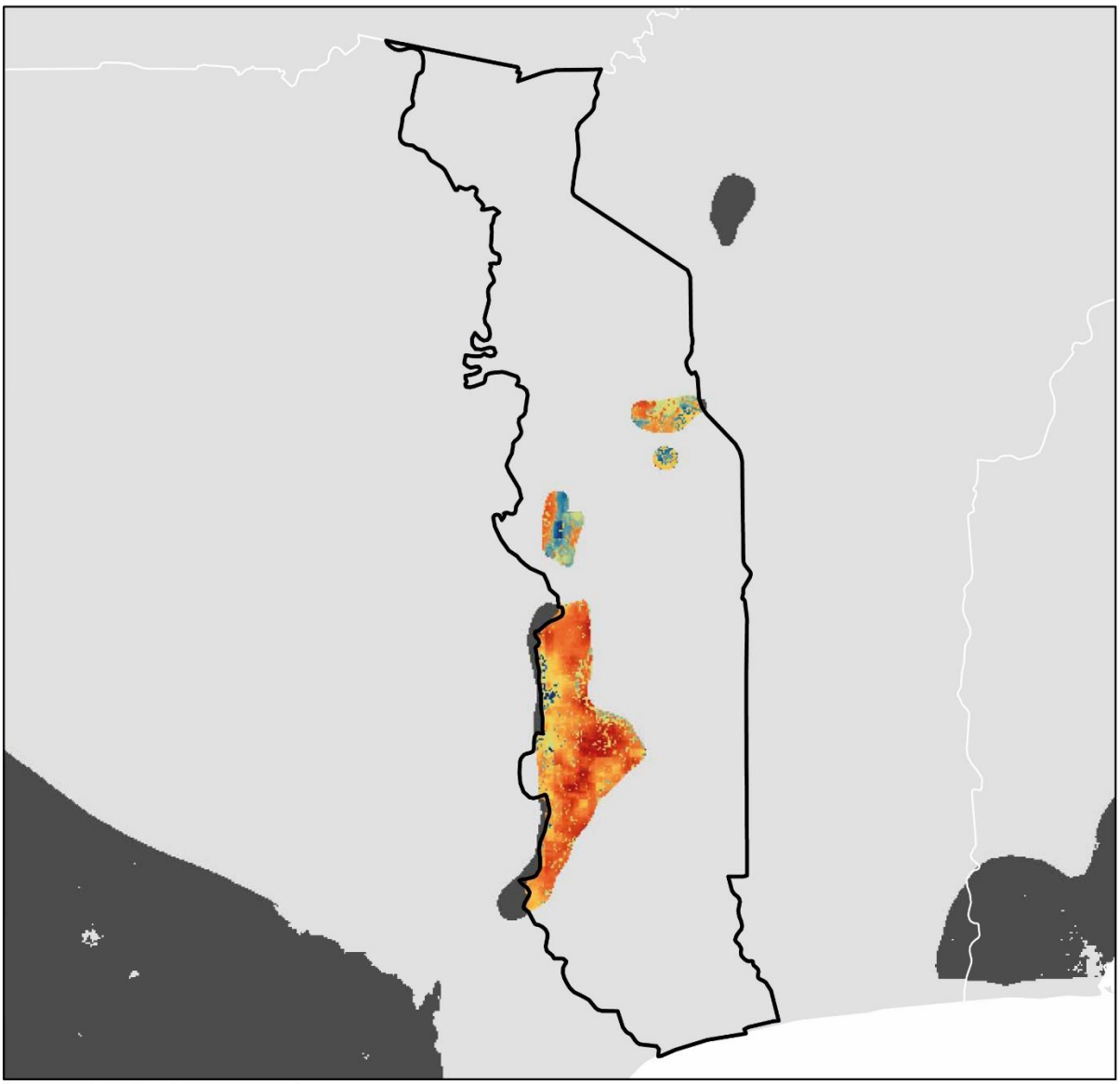
Suriname


Non-restorable area
0
0.5
1
Restoration opportunity score
Suriname
N
0
25
50
100
Km

Thailand

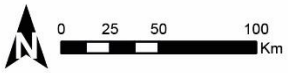

Non-restorable area
0
0.5
1
Restoration opportunity score
Thailand
N
0
125
250
500
Km

Togo

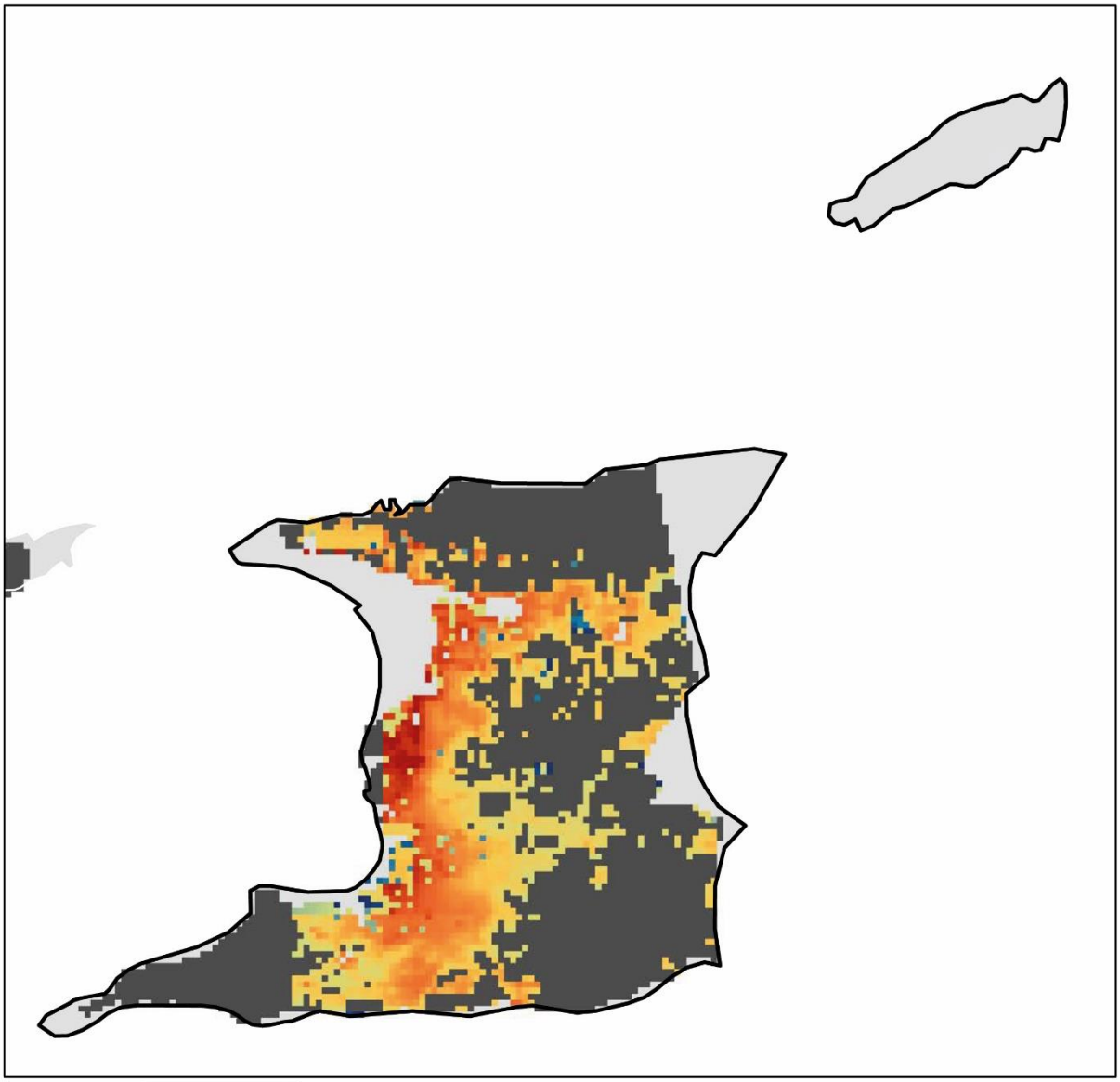



Non-restorable area
0
0.5
1
Restoration opportunity score

Togo


N
0
25
50
100
Km

Trinidad and Tobago



Non-restorable area 0 0.5 1

Restoration opportunity score

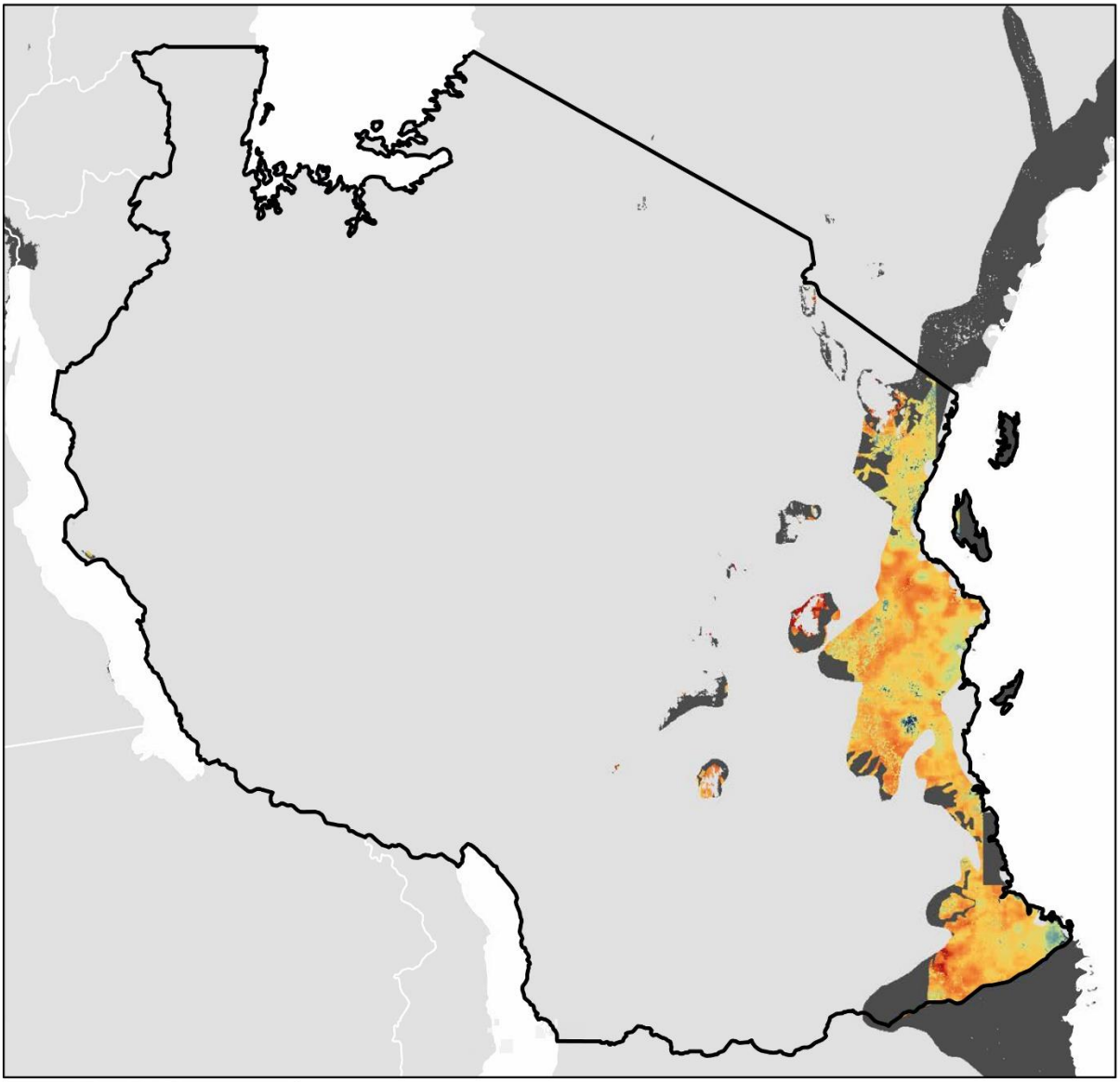
Trinidad and Tobago

N

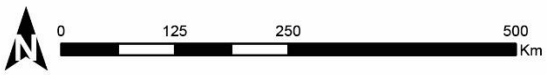
0 12,5 25 50

Km

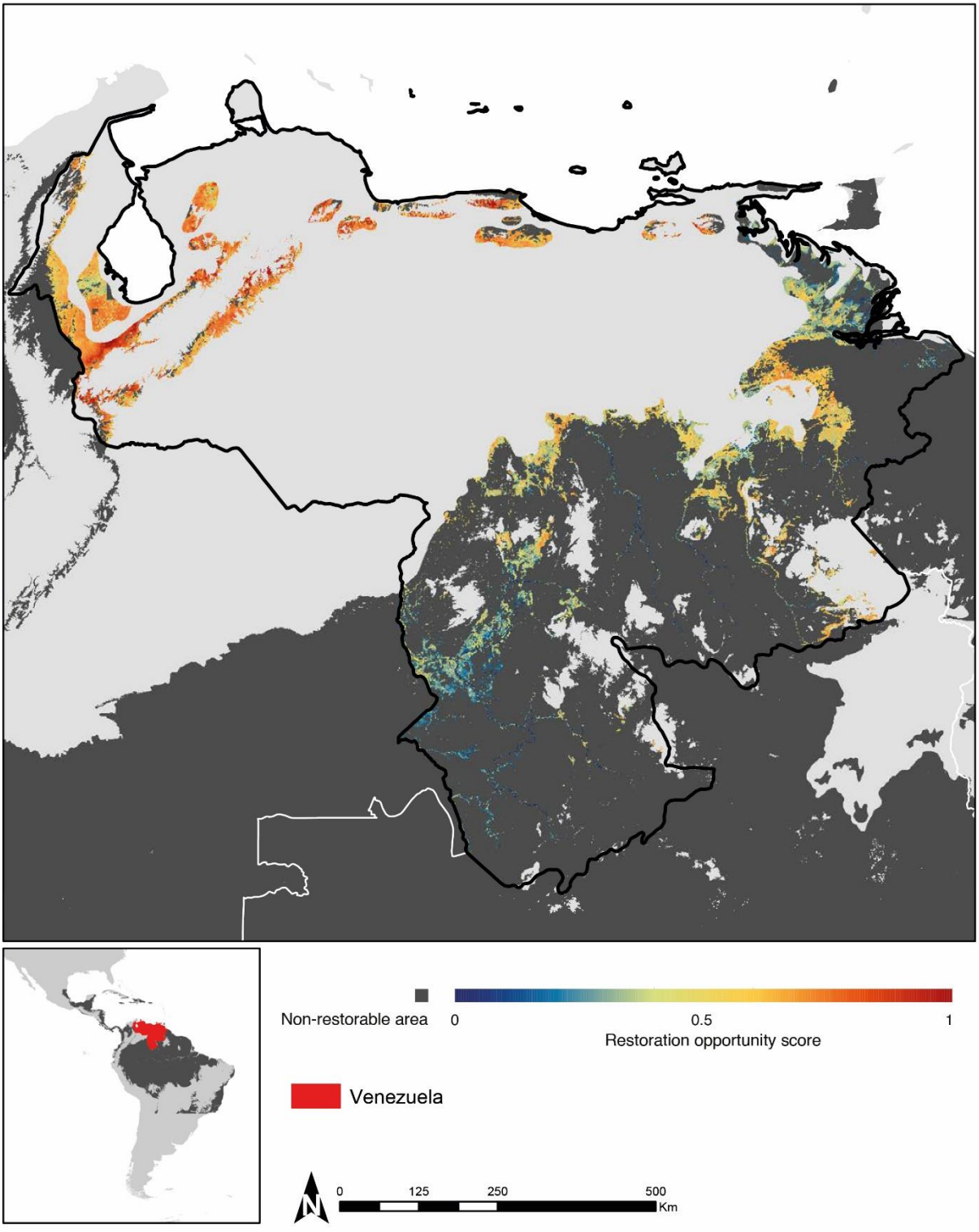
United Republic of Tanzania



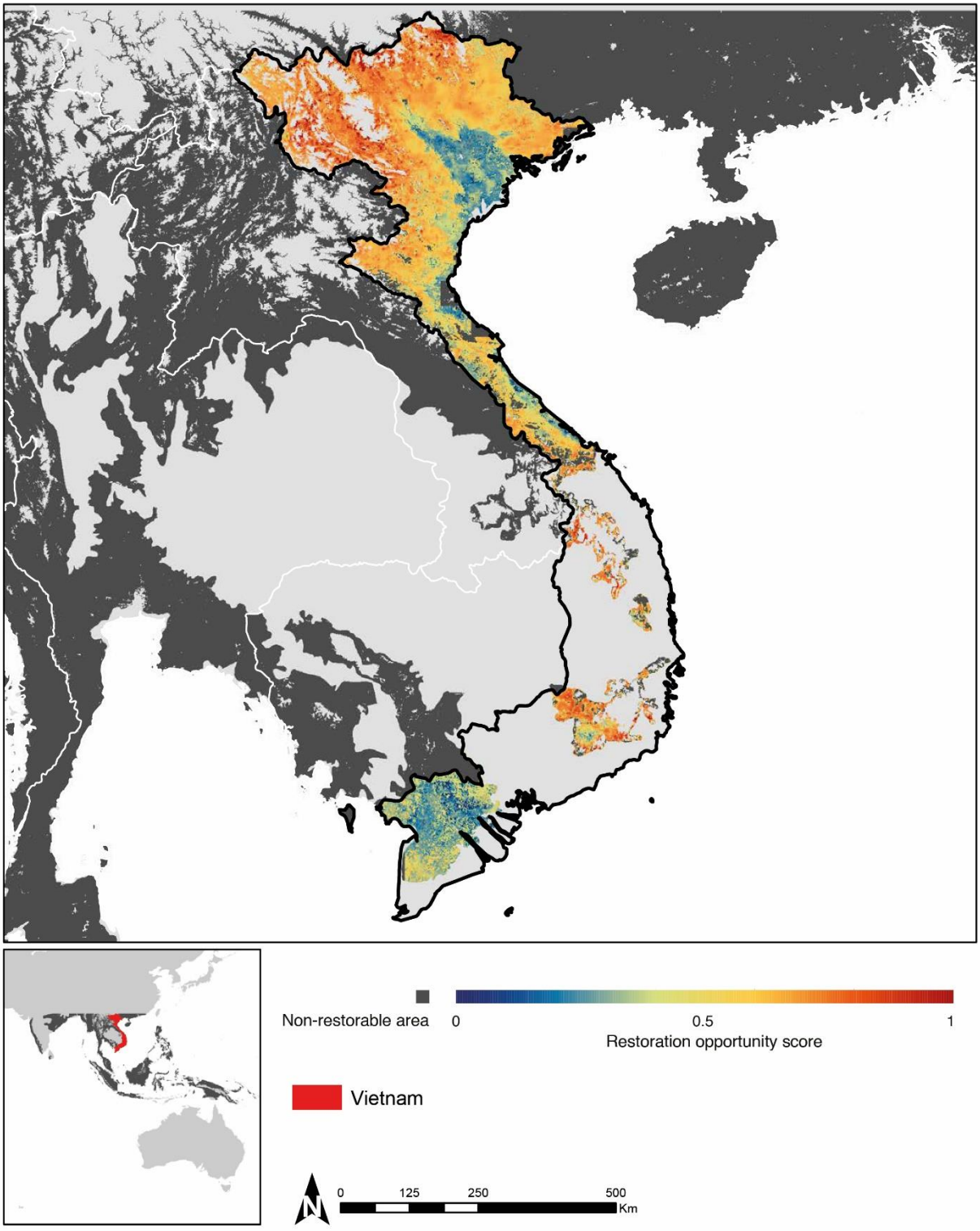
United Republic of Tanzania



Venezuela


Non-restorable area
0
0.5
1
Restoration opportunity score
Venezuela
N
0
125
250
500
Km

Vietnam


Non-restorable area
0
0.5
1
Restoration opportunity score
Vietnam
N
0
125
250
500
Km

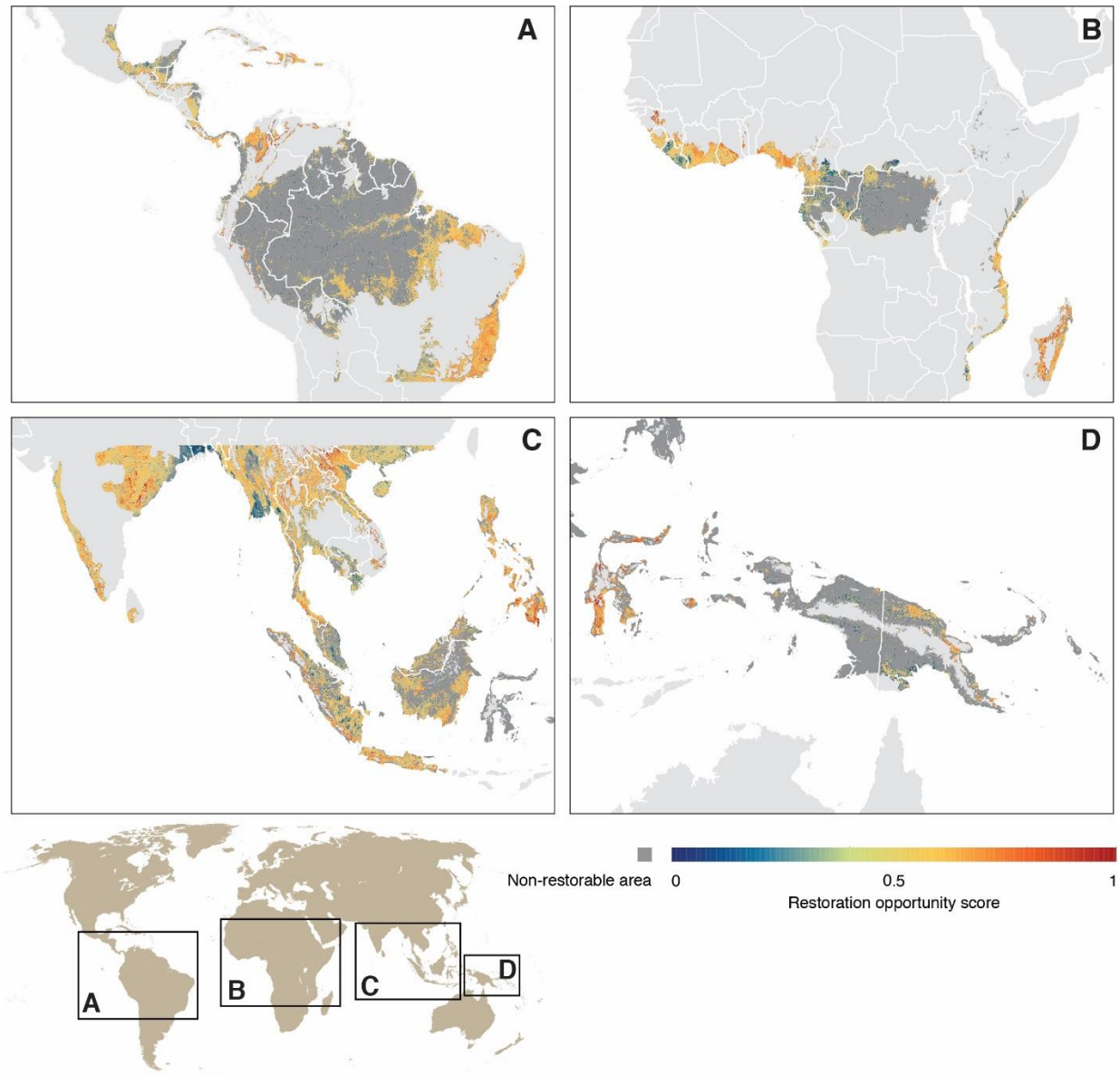
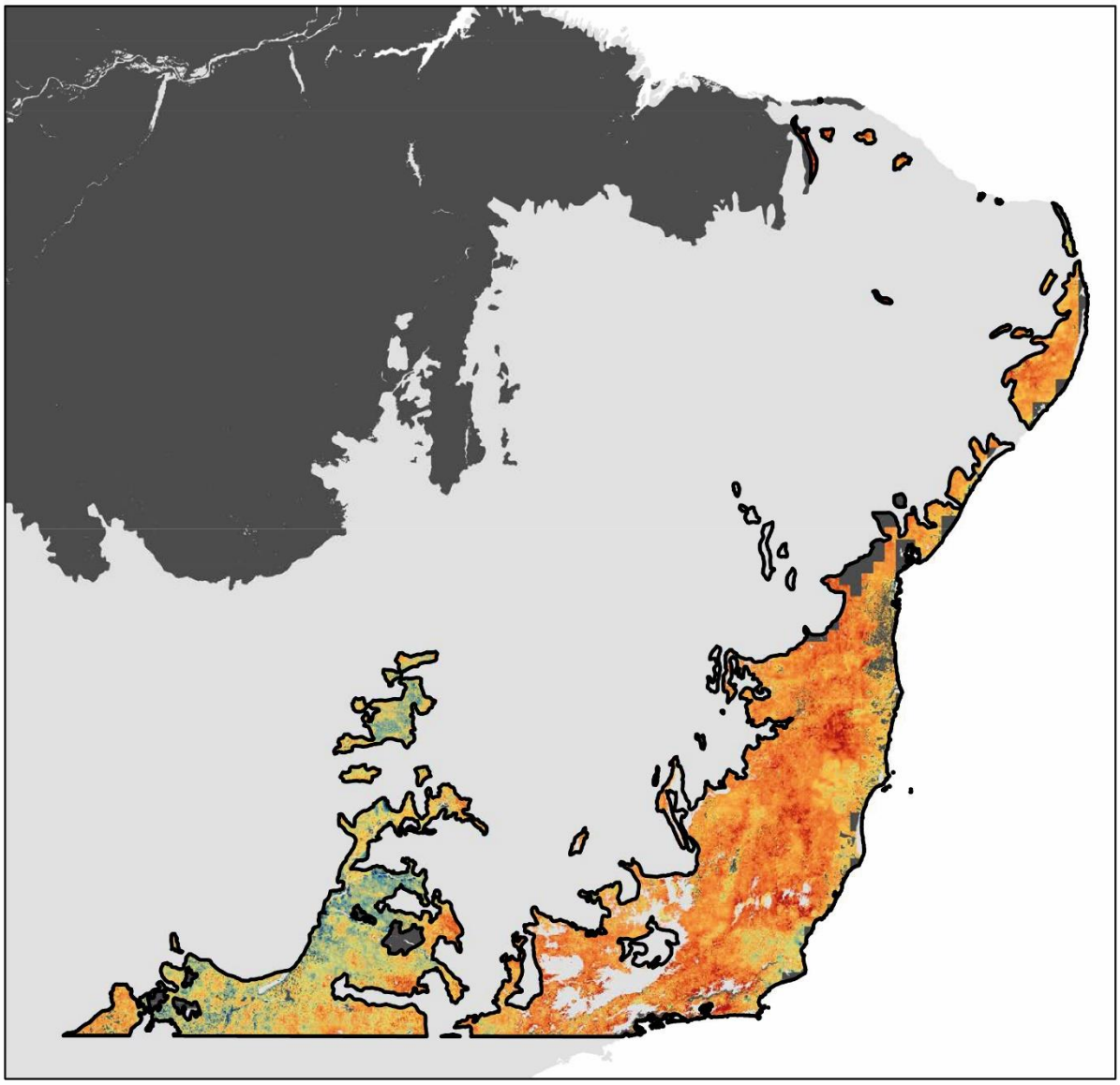


Fig. S3. ROS of tropical rainforest landscapes of biogeographical realms, with data renormalized for each realm (A, Neotropics; B, Afrotropics; C, Indo-Malaysia; D, Australasia). The depiction of boundaries and geographic names is simply for display purposes and does not imply views regarding the legal status of any territory or country.

Atlantic Forest



Non-restorable area

0

0.5

1

Restoration opportunity score

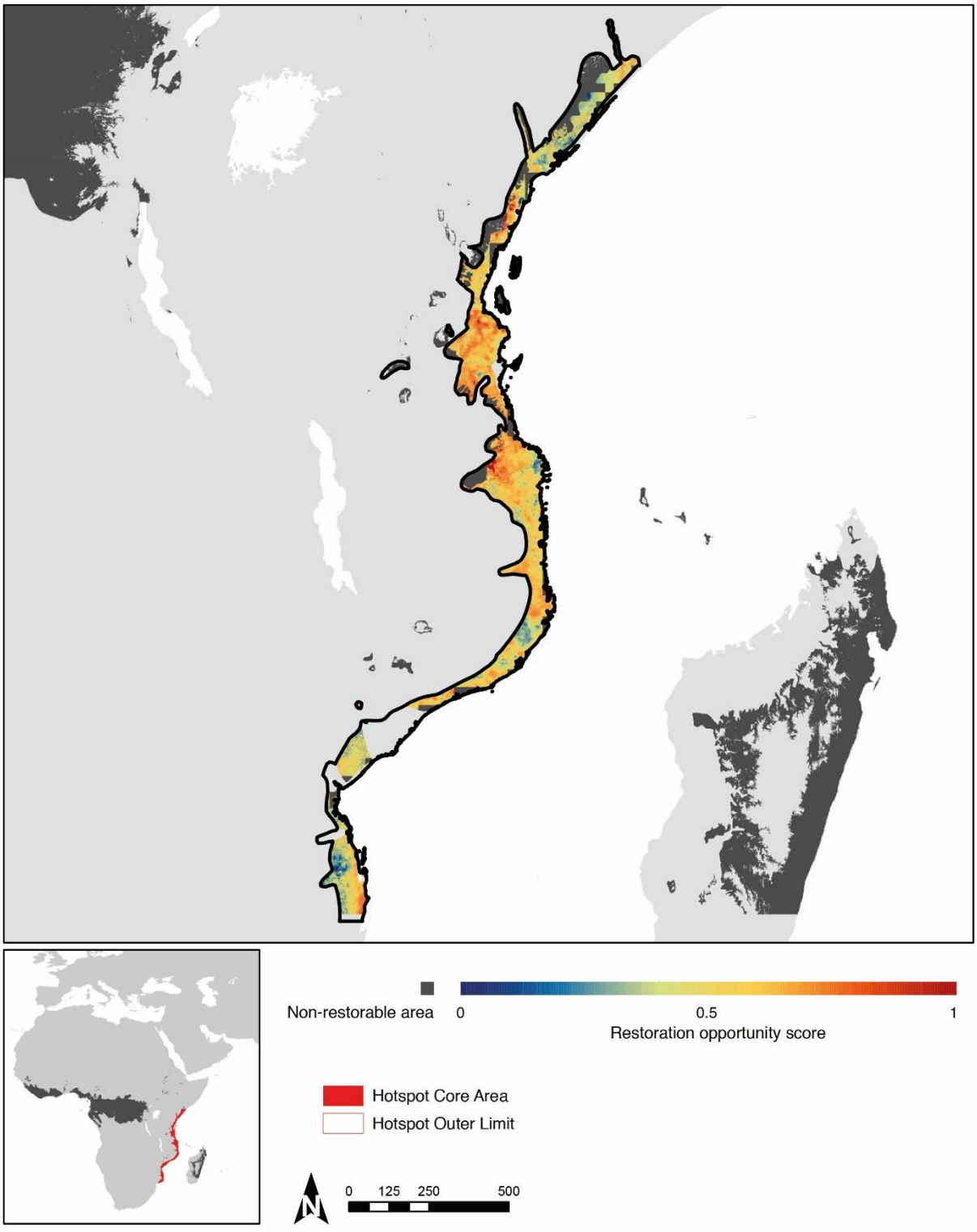
Hotspot Core Area

Hotspot Outer Limit

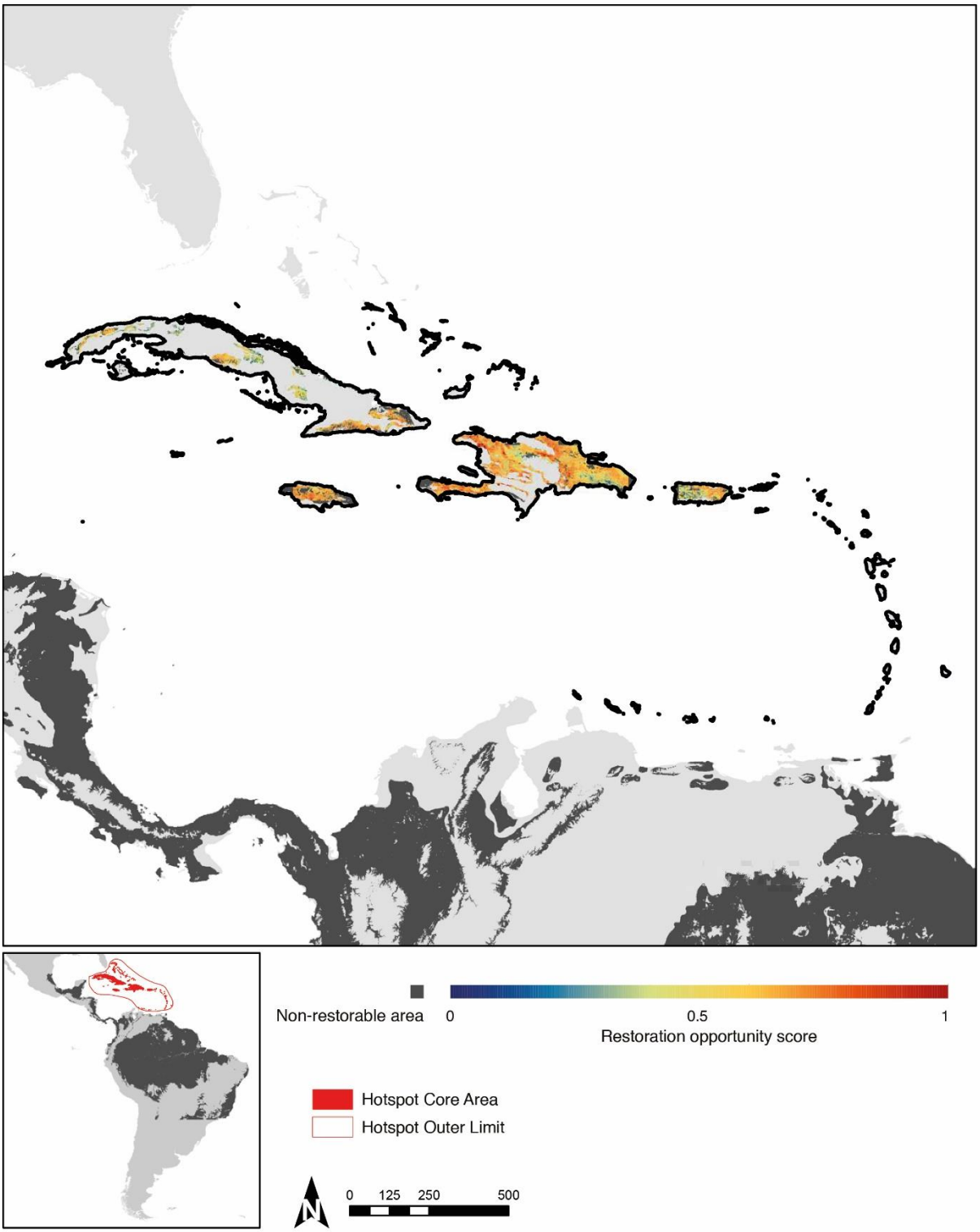
0 125 250 500

Km

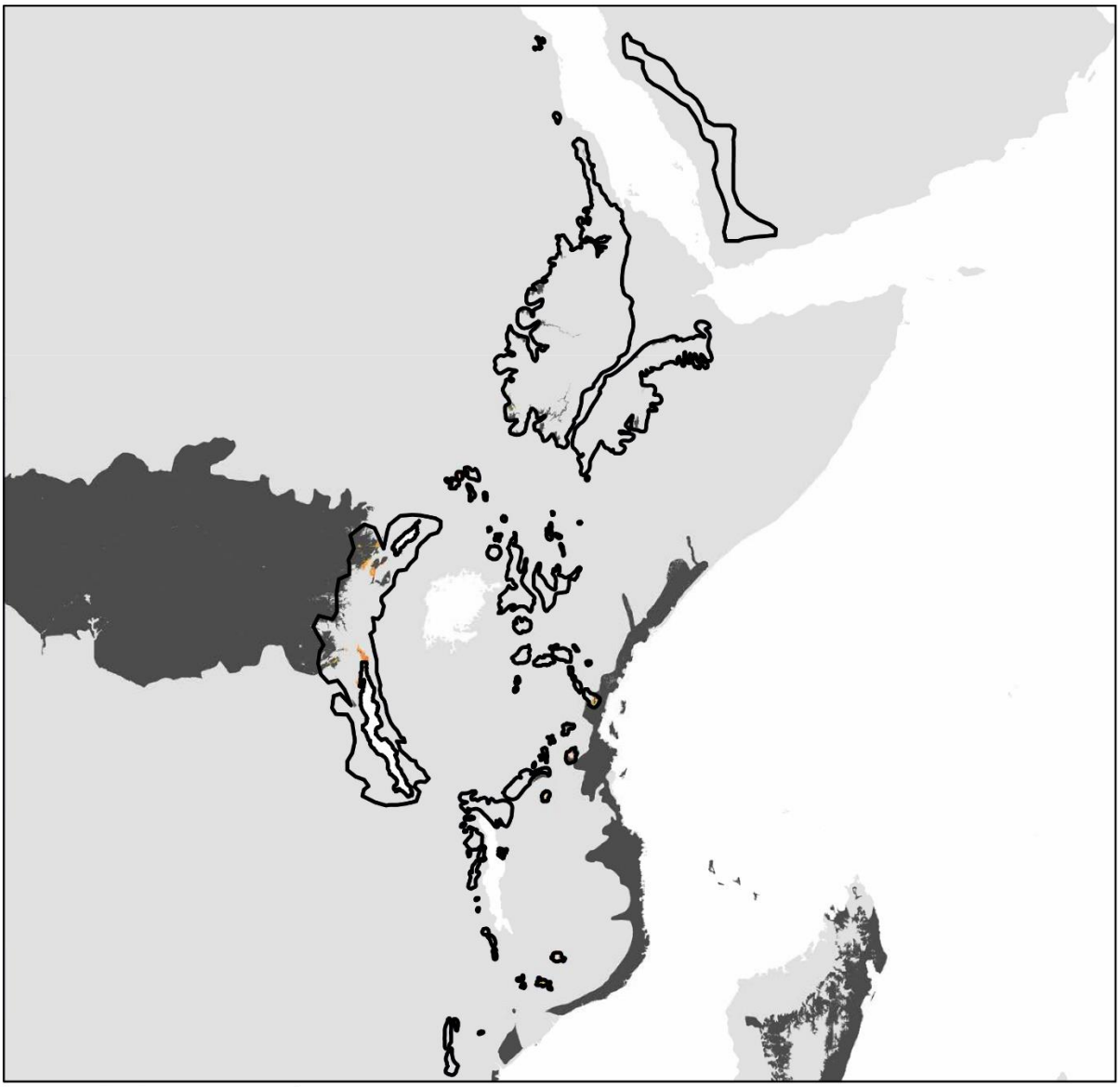
Coastal Forests of Eastern Africa

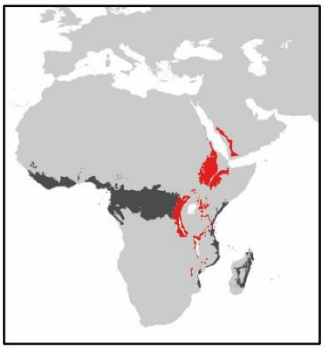


Caribbean Islands



Eastern Afromontane





Non-restorable area

0 0.5 1

Restoration opportunity score

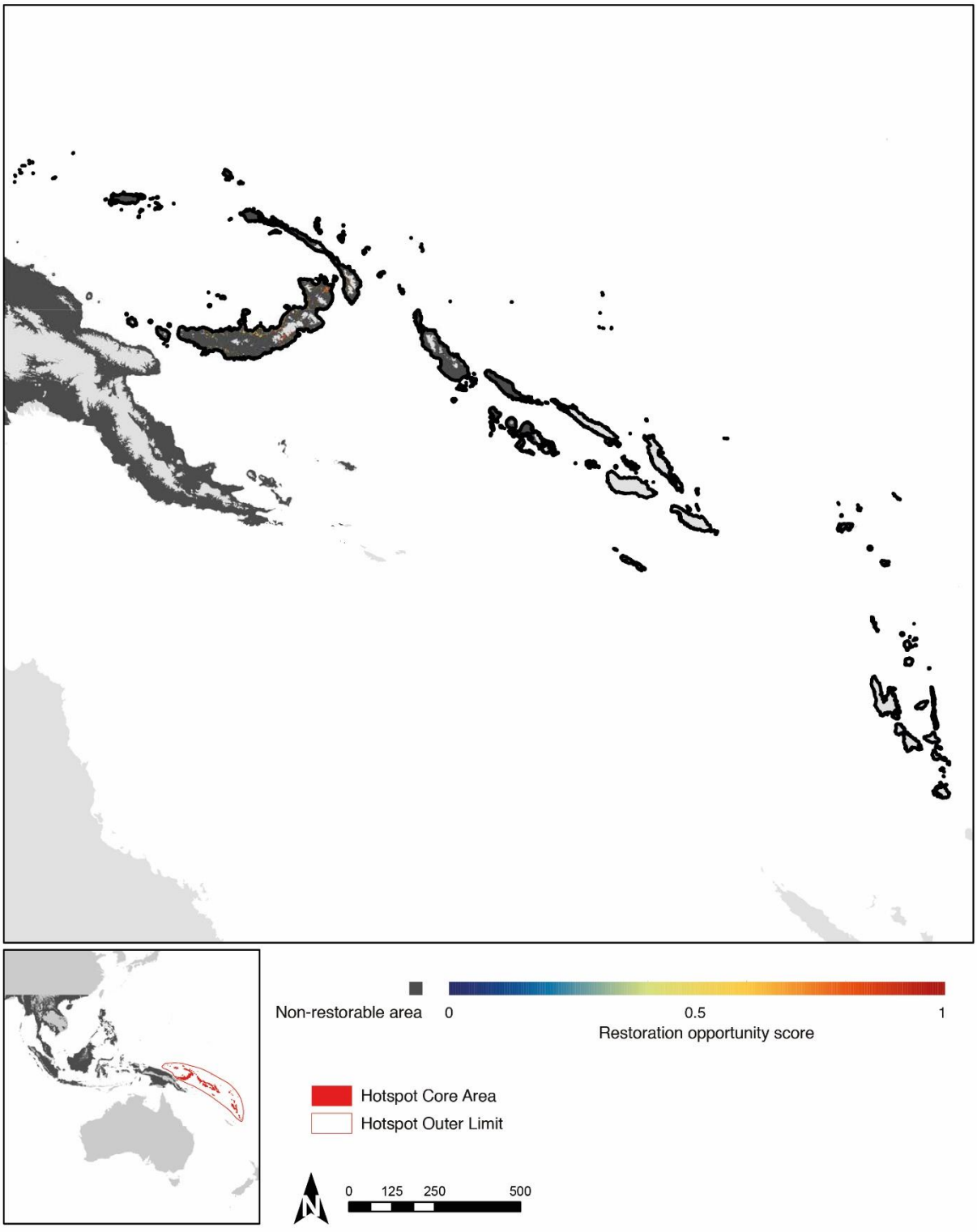
Hotspot Core Area

Hotspot Outer Limit

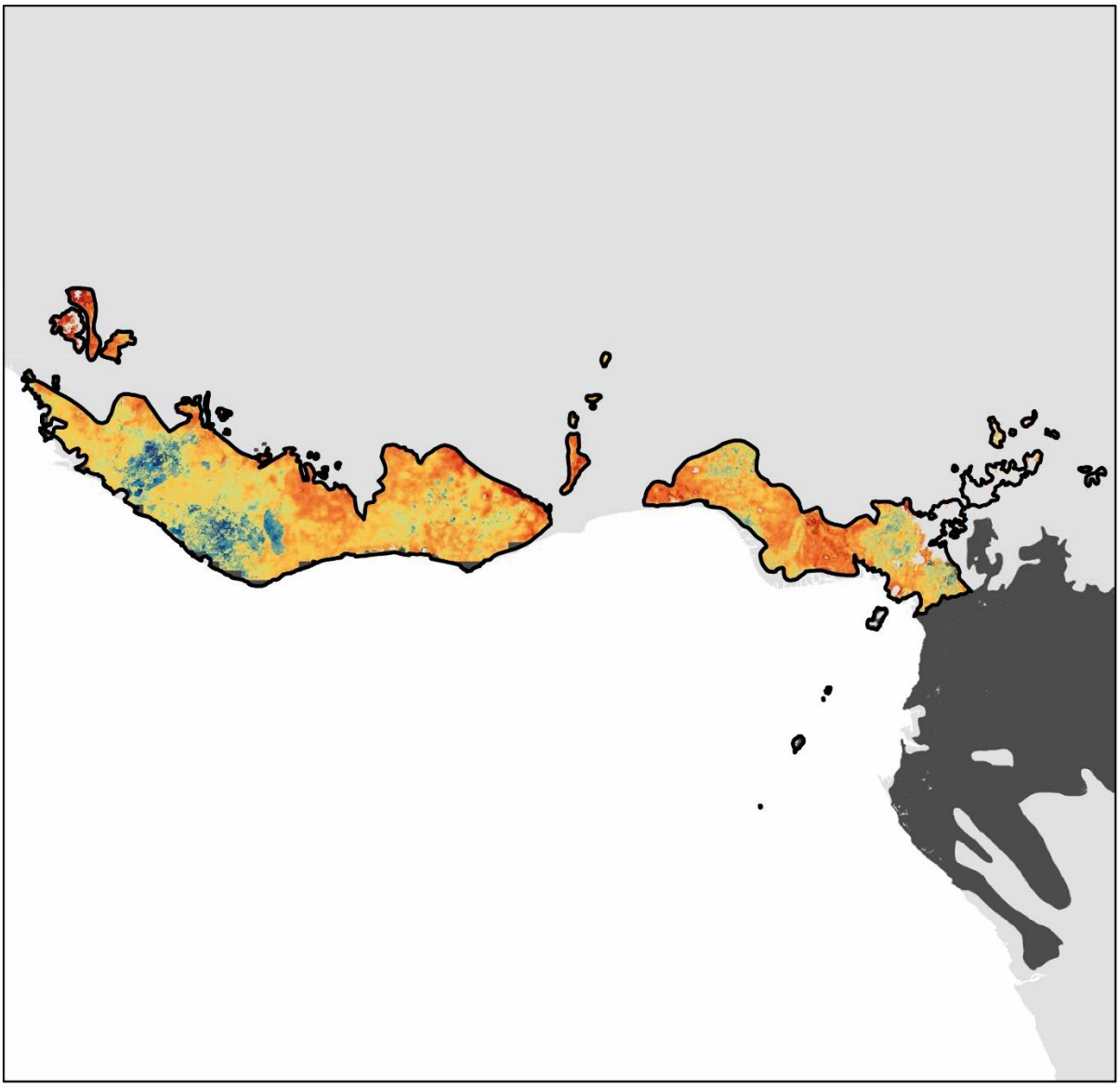
N

0 250 500 1.000

East Melanesian Islands



Guinean Forests of West Africa



Non-restorable area

0

0.5

1

Restoration opportunity score

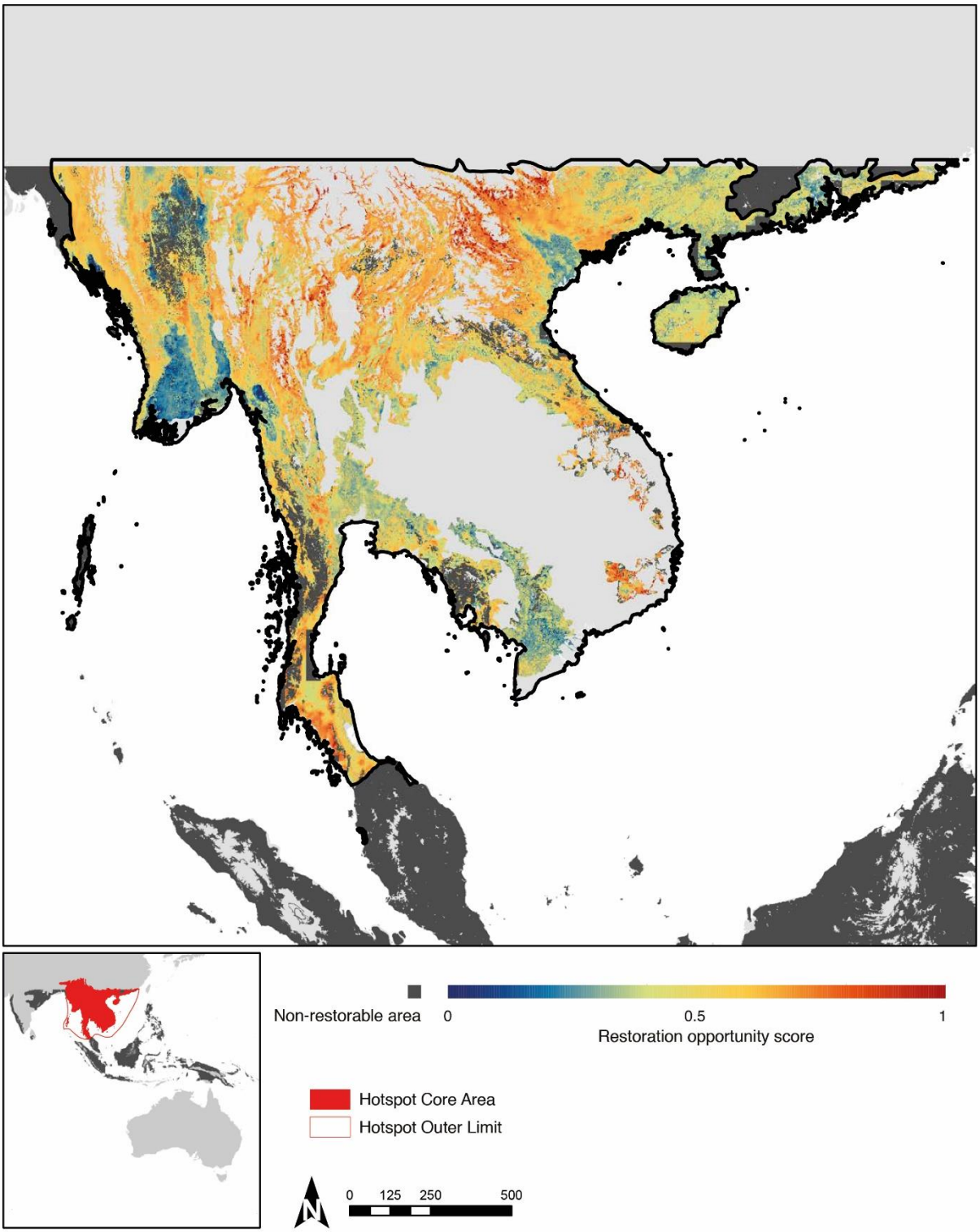
Hotspot Core Area

Hotspot Outer Limit

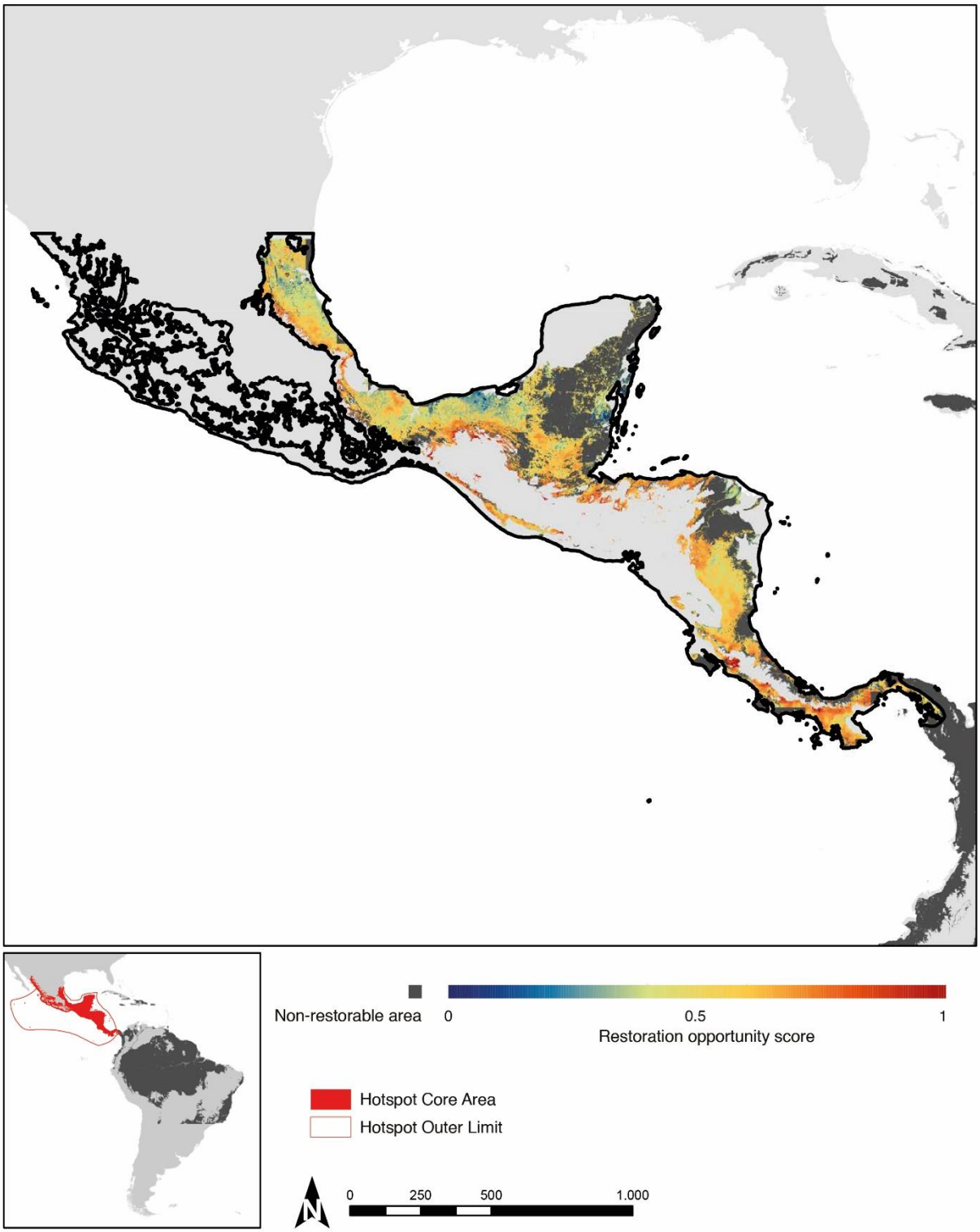
N

0 125 250 500

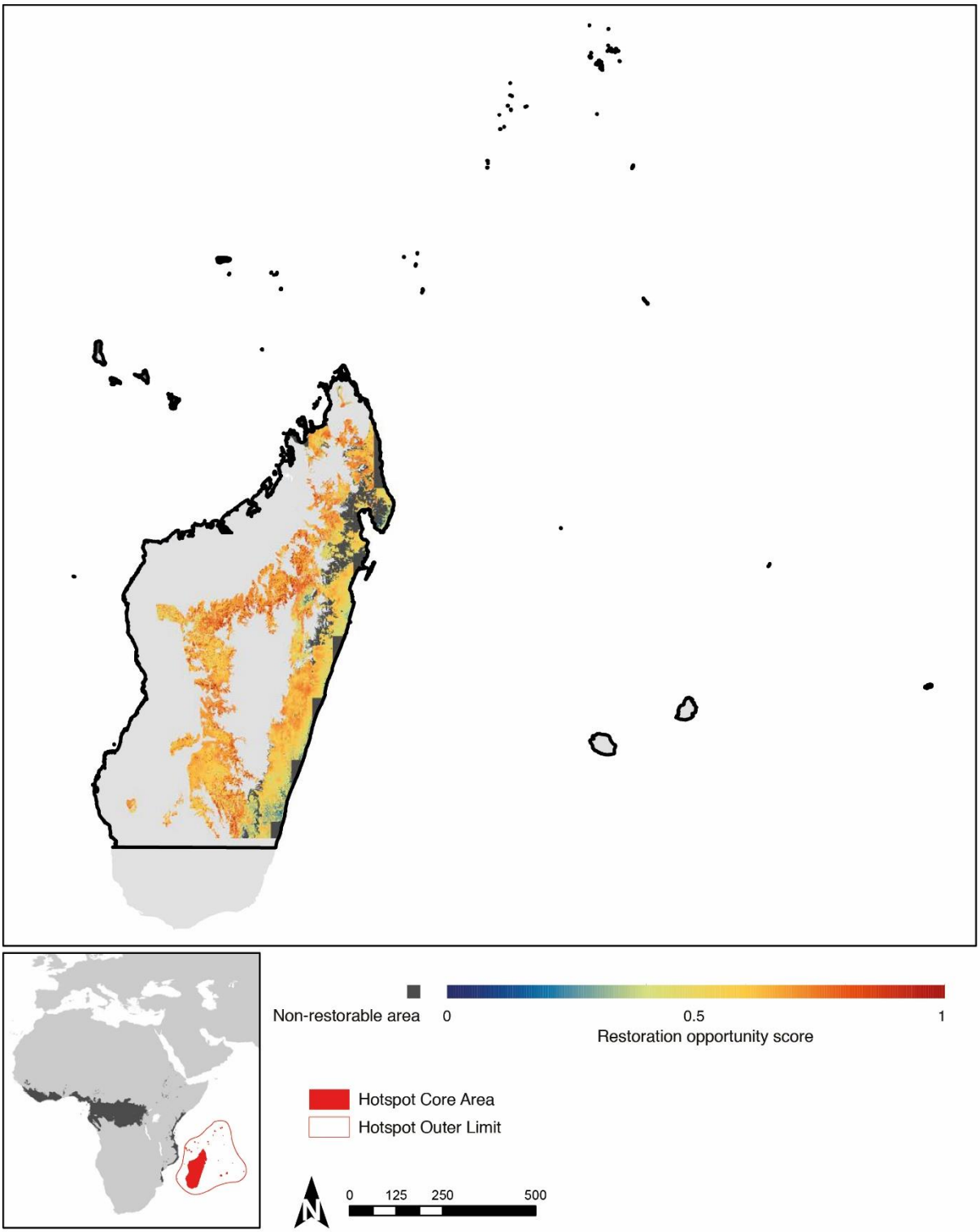
Indo-Burma


Non-restorable area
0
0.5
1
Restoration opportunity score
Hotspot Core Area
Hotspot Outer Limit
N
0 125 250 500

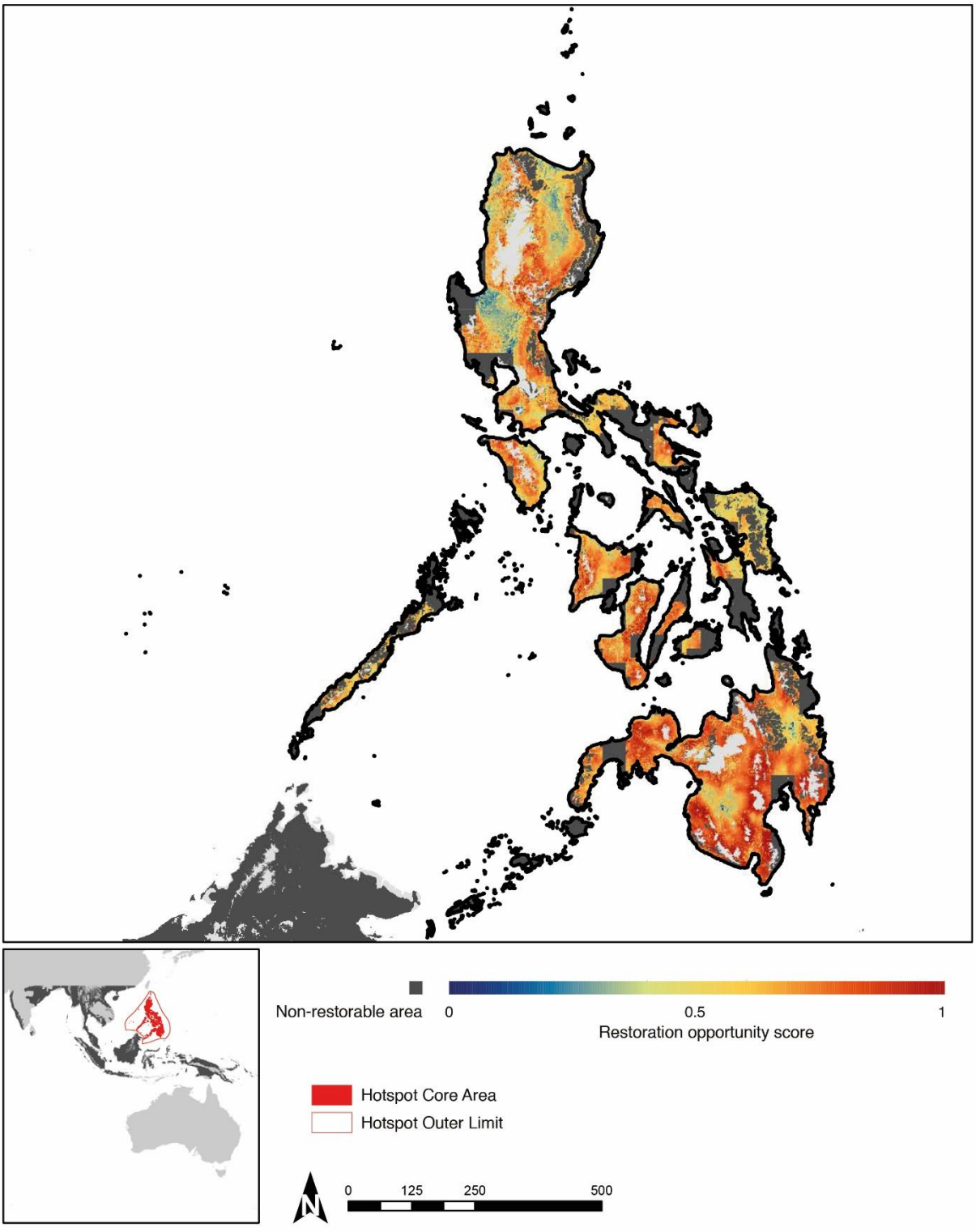
Mesoamerica



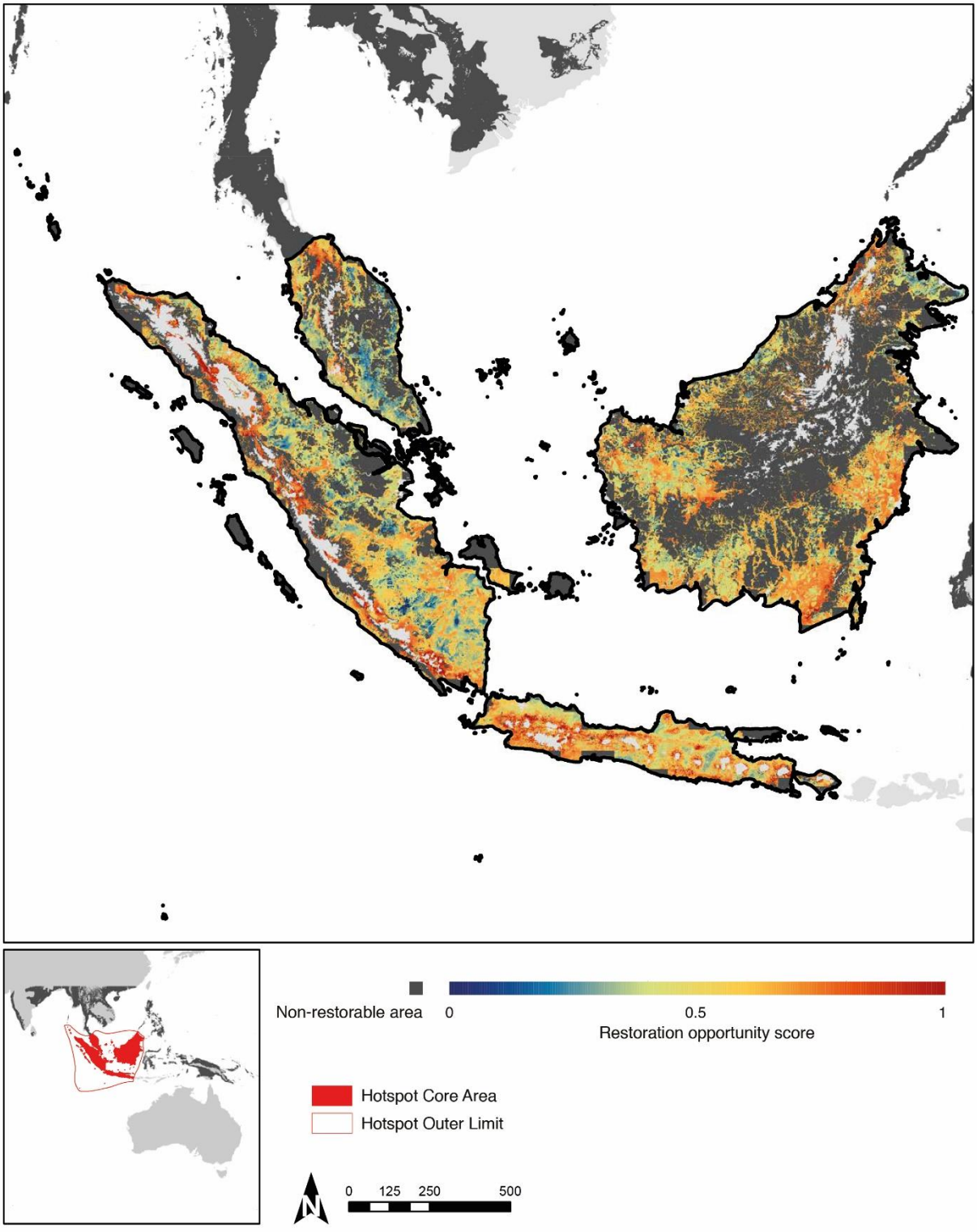
Madagascar and the Indian Ocean Islands



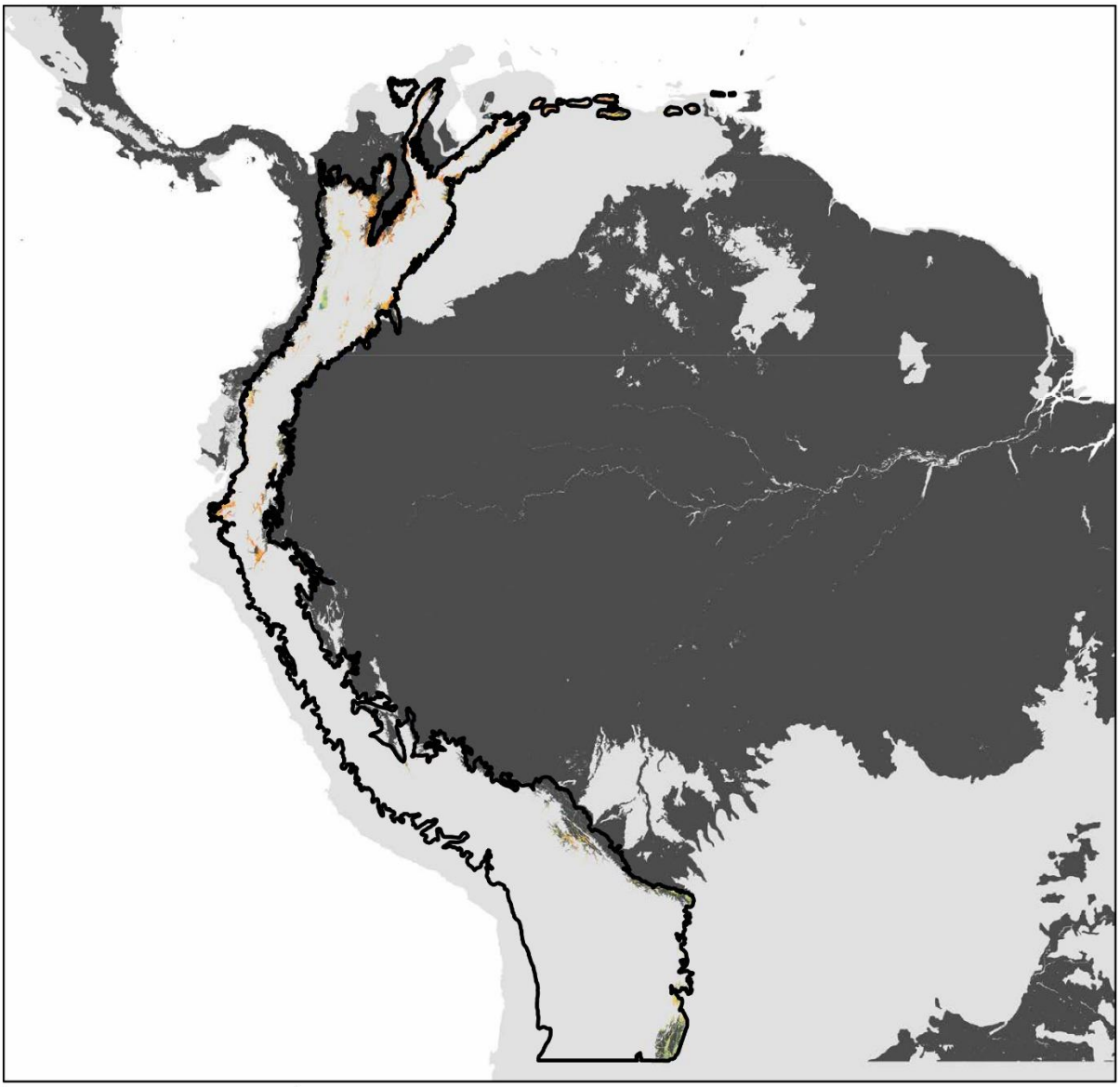
Philippines



Sundaland


Non-restorable area
0
0.5
1
Restoration opportunity score
Hotspot Core Area
Hotspot Outer Limit
N
0 125 250 500

Tropical Andes



Non-restorable area

0 0.5 1

Restoration opportunity score

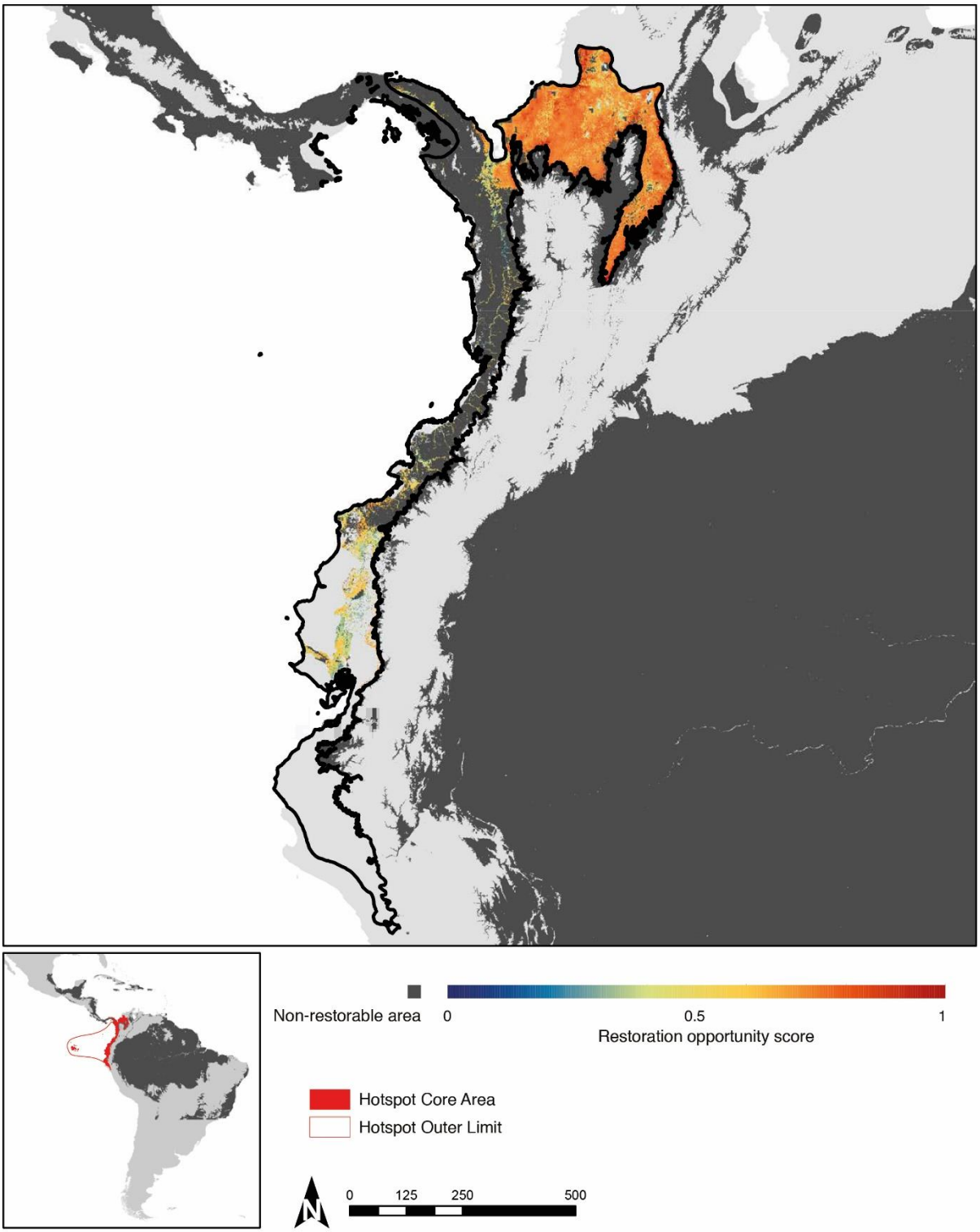
Hotspot Core Area

Hotspot Outer Limit

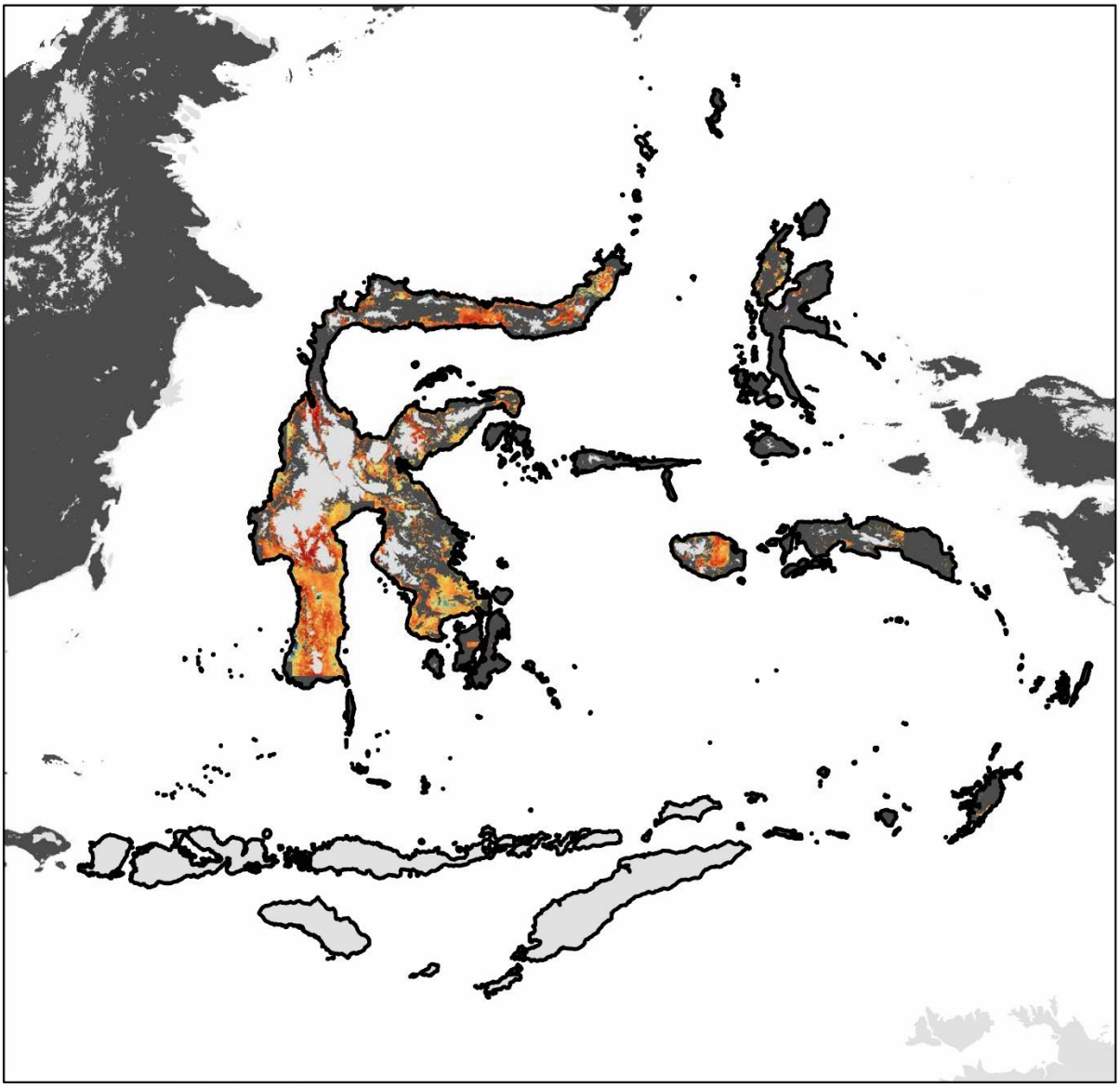
N

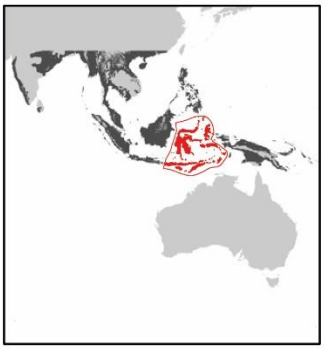
0 250 500 1.000

Tumbes-Choco-Magdalena



Wallacea





Non-restorable area

0 0.5 1

Restoration opportunity score

Hotspot Core Area

Hotspot Outer Limit

N

0 125 250 500

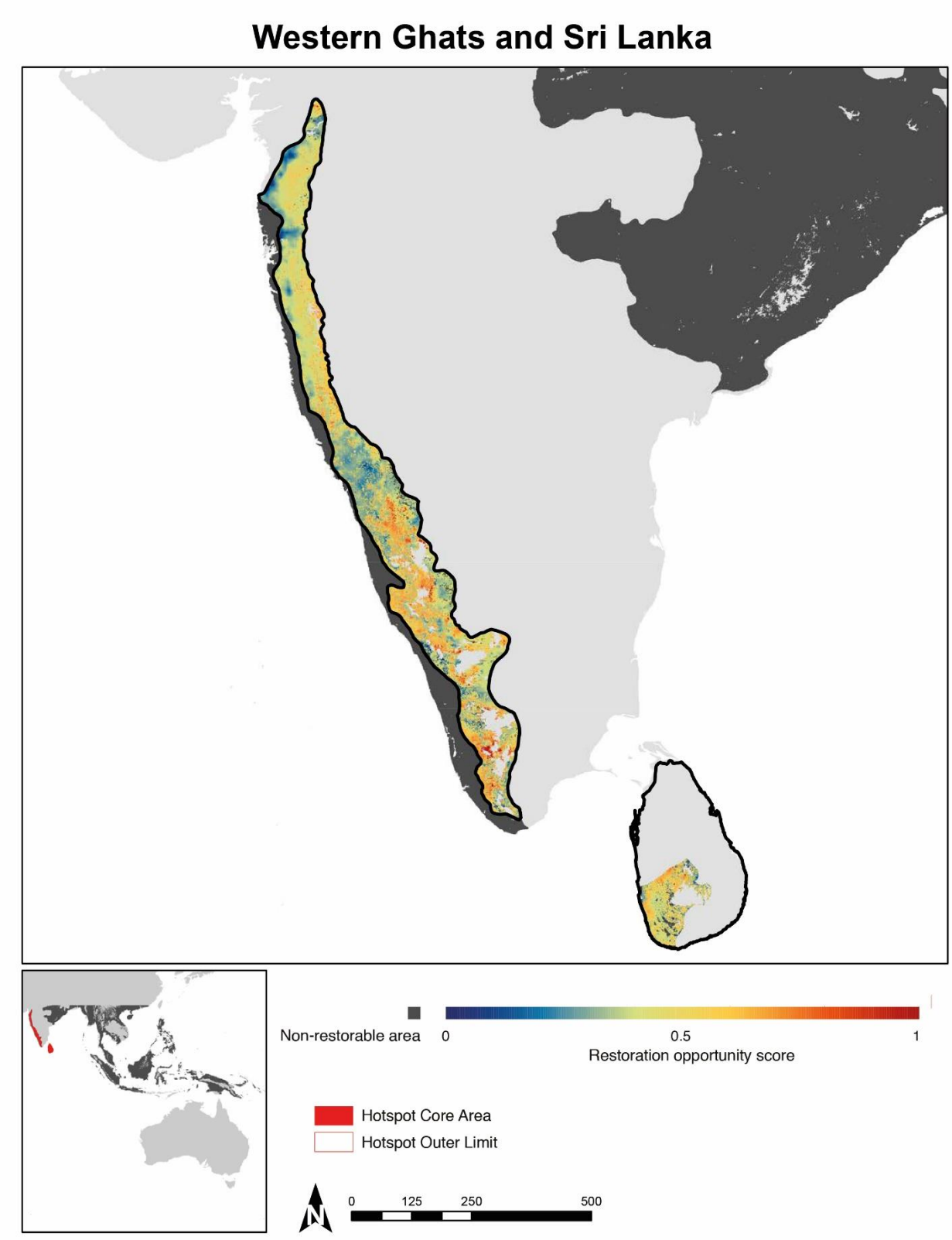


Fig. S4. ROS of tropical rainforest landscapes of global hotspots for biodiversity conservation, with data renormalized for each hotspot.

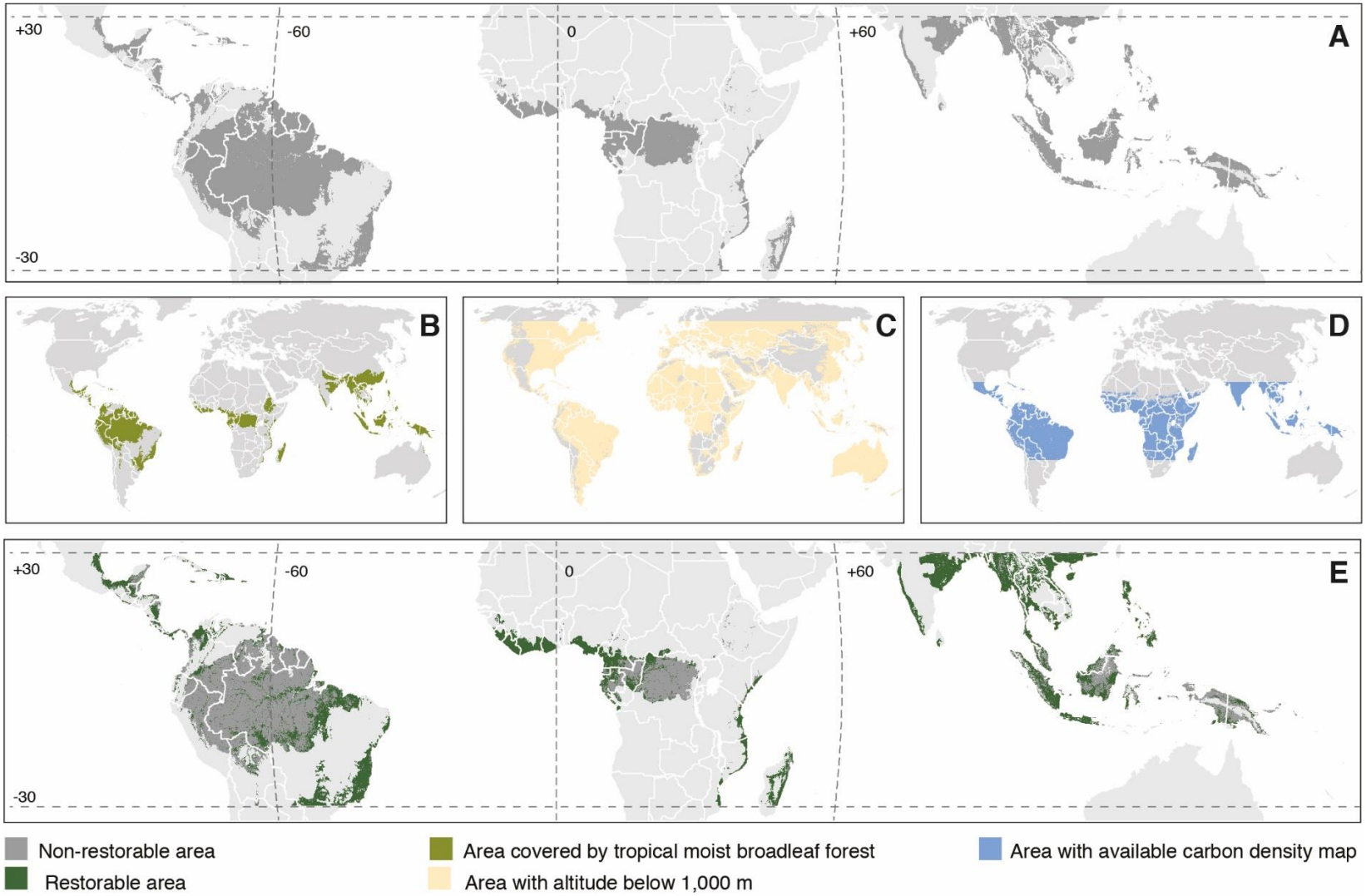


Fig. S5. Identification of restorable areas. Study area (A), obtained by overlapping areas covered by tropical moist broadleaf forests (B), with altitudes below 1,000 m asl (C), and with available carbon density maps (D), and restorable area (E), obtained by overlapping areas <90% tree canopy cover and not covered by urban areas and water bodies. The depiction of boundaries and geographic names is simply for display purposes and does not imply views regarding the legal status of any territory or country.

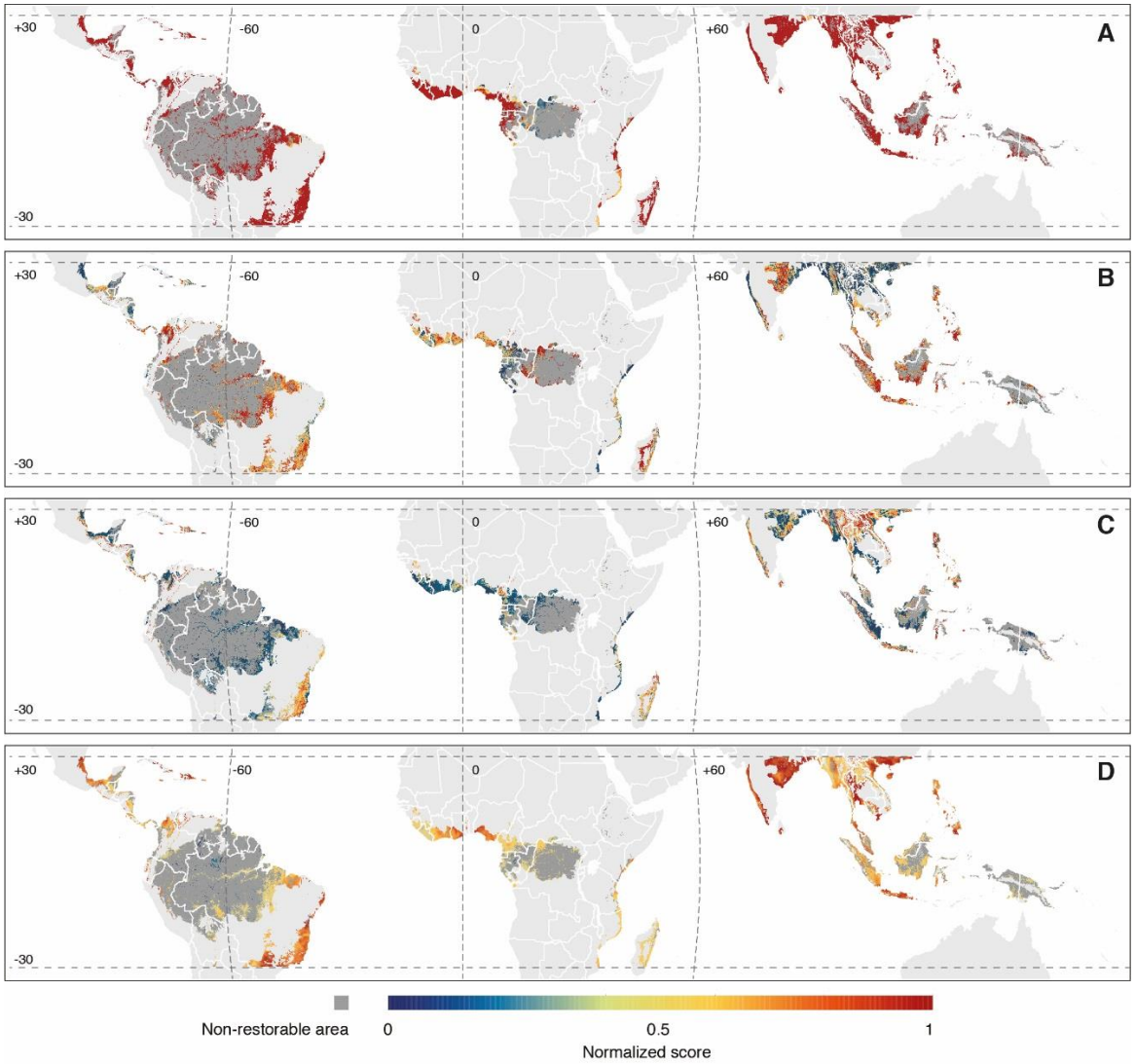


Fig. S6. Restoration benefits. Normalized scores of restoration benefits for biodiversity conservation (A), climate change mitigation (aboveground biomass accumulation potential of restored forests; B), climate change adaptation (velocity of climate change; C), and reducing water security water threat to humans (D). The higher is the score, the higher is the expected benefit. The depiction of boundaries and geographic names is simply for display purposes and does not imply views regarding the legal status of any territory or country.

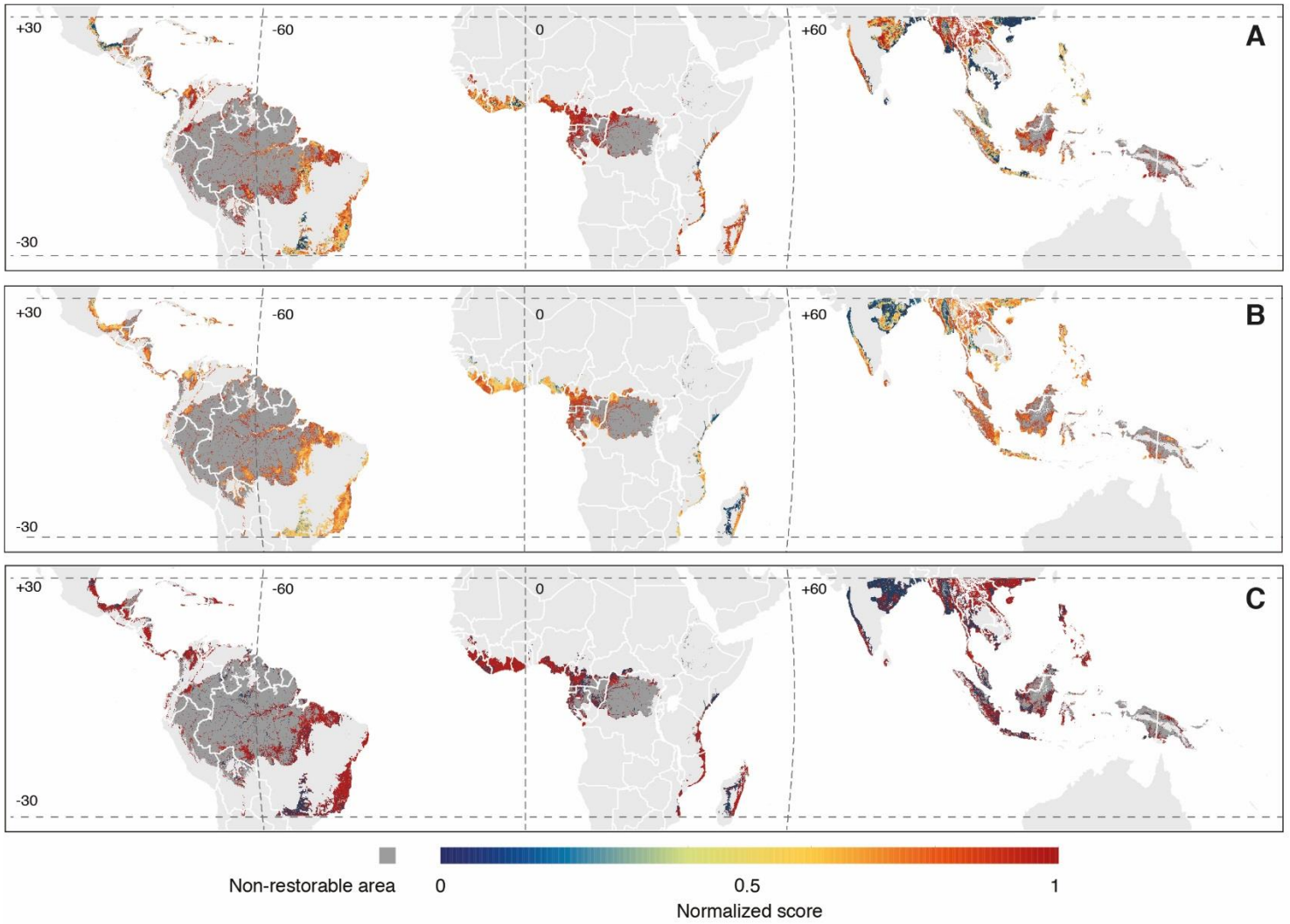


Fig. S7. Restoration feasibility factors. Normalized scores of restoration feasibility factors for land opportunity costs (expressed as the economic benefits from agricultural lands; A), landscape variation in forest restoration success (measured in terms of the variation of biodiversity recolonization of restoration sites in relation to reference ecosystem levels; B), and persistence chances of tropical restored forests (C). The higher is the score, the higher is restoration feasibility. The depiction of boundaries and geographic names is simply for display purposes and does not imply views regarding the legal status of any territory or country.

Table S1. Country's ROS, restorable area, and restorable area with a restoration score of >0.6 of tropical rainforest landscapes and their national pledges to the Bonn Challenge.

Country	Continent	Restoration Score		Restorable Area (km^2)	Restoration Score ≥0.6 (km^2)	Bonn Challenge pledge (km^2)
		mean	standard deviation			
Angola	Africa	0.475	0.08	2,383	16	
Argentina	South America	0.486	0.09	5,999	213	
Bangladesh	Asia	0.311	0.16	46,460	687	
Belize	North America	0.351	0.12	8,393	34	
Benin	Africa	0.612	0.13	1,666	789	5,000
Bolivia	South America	0.433	0.12	88,513	6,243	
Brazil	South America	0.532	0.13	1,888,369	613,720	130,000
Brunei	Asia	0.432	0.10	1,751	17	
Burundi	Africa	0.691	0.10	1,137	795	
Cambodia	Asia	0.412	0.11	50,942	2,032	
Cameroon	Africa	0.440	0.15	198,213	27,636	120,600
Central African	Africa	0.335	0.14	47,409	619	35,000
China	Asia	0.451	0.11	271,789	22,822	
Colombia	South America	0.581	0.14	213,122	120,959	10,000
Congo	Africa	0.396	0.13	88,035	3,843	
Costa Rica	North America	0.564	0.10	28,195	7,902	10,000
Côte d'Ivoire	Africa	0.572	0.10	173,808	74,359	50,000
Cuba	North America	0.549	0.12	20,210	7,600	
Dem. Rep.	Africa	0.418	0.13	211,386	8,692	80,000
Dominican Rep.	North America	0.611	0.10	33,564	19,475	
Ecuador	South America	0.524	0.15	30,267	8,367	5,000
El Salvador	North America	0.597	0.12	331	134	10,000
Eq. Guinea	Africa	0.458	0.10	18,266	271	
Ethiopia	Africa	0.488	0.12	1,497	310	
France	Europe	0.403	0.13	3,597	86	
Gabon	Africa	0.382	0.12	120,158	2,184	
Ghana	Africa	0.586	0.11	93,181	40,228	20,000
Guatemala	North America	0.533	0.09	45,961	9,029	12,400
Guinea	Africa	0.629	0.13	52,027	31,244	20,000
Guyana	South America	0.439	0.13	23,503	2,489	
Haiti	North America	0.646	0.10	20,930	12,645	
Honduras	North America	0.567	0.12	22,672	10,510	10,000
Hong Kong	Asia	0.472	0.10	950	11	
India	Asia	0.510	0.12	720,437	150,037	210,000
Indonesia	Asia	0.508	0.14	913,516	231,622	51,000
Jamaica	North America	0.642	0.08	7,228	4,566	
Kenya	Africa	0.453	0.14	23,626	2,639	51,000
Laos	Asia	0.548	0.10	148,475	47,979	
Liberia	Africa	0.395	0.12	109,699	817	10,000
Madagascar	Africa	0.647	0.10	219,078	146,863	40,000
Country	**Continent**	**Restoration Score**		**Restorable**	**Restoratio**	**Bonn**

		mean	standard deviation	Area (km²)	n Score ≥0.6 (km²)	Challenge pledge (km²)
Malawi	Africa	0.643	0.10	44	26	45,000
Malaysia	Asia	0.456	0.13	173,455	25,090	
Mexico	North America	0.458	0.12	202,034	24,181	97,000
Mozambique	Africa	0.470	0.12	128,040	11,893	10,000
Myanmar	Asia	0.482	0.14	413,650	81,272	
Nicaragua	North America	0.507	0.08	52,166	6,493	27,000
Nigeria	Africa	0.605	0.12	140,089	81,884	40,000
Panama	North America	0.560	0.11	36,684	12,468	10,000
Papua New	Oceania	0.471	0.14	108,588	15,193	
Paraguay	South America	0.582	0.09	11,032	6,282	
Peru	South America	0.531	0.17	61,392	22,537	32,000
Philippines	Asia	0.578	0.13	263,918	95,093	
Puerto Rico	North America	0.543	0.11	7,491	2,304	
Rwanda	Africa	0.692	0.08	23	19	
S. Sudan	Africa	0.660	0.10	1,325	940	
Sierra Leone	Africa	0.526	0.08	54,282	9,061	
Somalia	Africa	0.409	0.10	19,974	1,164	
Sri Lanka	Asia	0.540	0.09	13,986	3,951	
Suriname	South America	0.419	0.12	10,701	551	
Tanzania	Africa	0.572	0.10	72,151	27,438	
Thailand	Asia	0.508	0.13	290,070	76,123	
Togo	Africa	0.667	0.10	7,655	5,943	
Trinidad and	North America	0.604	0.08	2,217	1,021	
Uganda	Africa	0.692	0.17	231	172	25,000
Venezuela	South America	0.524	0.16	95,043	35,411	
Vietnam	Asia	0.537	0.15	215,141	88,637	

Table S2. Mean ROS, total area, restorable area, and restorable area with a restoration score of >0.6 of ecoregions within tropical rainforest landscapes.

Ecoregion	Mean Restoration Score	Study Area (km^2)	Restorable Area (km^2)	Restoration Score ≥0.6 (km^2)
Albertine Rift montane forests	0.677	8297	4080	2989
Alto Paraná Atlantic forests	0.504	304701	296907	84991
Amazon-Orinoco-Southern Caribbean mangroves	0.252	101	16	1
Apure-Villavicencio dry forests	0.596	44	42	20
Atlantic Coast restingas	0.453	4619	4391	260
Atlantic Equatorial coastal forests	0.433	220290	147416	5570
Bahamian-Antillean mangroves	0.512	7	6	0
Bahia coastal forests	0.617	129952	116214	66657
Bahia interior forests	0.640	260998	257364	192417
Banda Sea Islands moist deciduous forests	0.509	8565	4859	97
Belizian pine forests	0.211	2238	1231	0
Beni savanna	0.345	15940	8536	13
Bolivian montane dry forests	0.486	242	171	10
Bolivian Yungas	0.541	46827	7802	1986
Borneo lowland rain forests	0.497	492755	223205	51434
Borneo montane rain forests	0.565	97094	7673	3126
Borneo peat swamp forests	0.487	77946	46869	10641
Buru rain forests	0.643	8401	4589	2321
Caatinga	0.576	68	66	28
Caatinga Enclaves moist forests	0.681	5581	5545	4453
Cameroonian Highlands forests	0.564	14933	14627	6259
Campos Rupestres montane savanna	0.511	2558	2490	171
Caqueta moist forests	0.492	214518	24692	6983
Cardamom Mountains rain forests	0.462	51076	35400	2328
Catatumbo moist forests	0.651	26151	19887	14667
Cauca Valley dry forests	0.516	3316	3309	726
Cauca Valley montane forests	0.726	2173	1403	1300
Central African mangroves	0.294	68	64	0
Central American Atlantic moist forests	0.534	102852	60727	17353
Central American dry forests	0.522	36	33	8
Central American montane forests	0.618	2205	1319	751
Central American pine-oak forests	0.489	670	311	67
Central Congolian lowland forests	0.398	482878	37053	17
Central Deccan Plateau dry deciduous forests	0.473	30	29	0
Central Indochina dry forests	0.439	112	108	12
Central Range montane rain forests	0.546	72000	6139	2059
Central Range sub-alpine grasslands	0.472	197	34	7
Cerrado	0.403	17962	4927	154
Ecoregion	**Mean Restoration**	**Study Area**	**Restorable Area (Km^2)**	**Restoration Score ≥0.6**

	Score	**(km²)**		**(Km²)**
Chao Phraya freshwater swamp forests	0.411	46094	45637	1129
Chao Phraya lowland moist deciduous forests	0.479	24079	23789	2874
Chhota-Nagpur dry deciduous forests	0.473	5	5	0
Chiapas Depression dry forests	0.653	3	3	3
Chiapas montane forests	0.716	1578	1114	1031
Chimalapas montane forests	0.678	1128	1050	865
Chin Hills-Arakan Yoma montane forests	0.556	12430	12219	3968
Chiquitano dry forests	0.462	33	12	0
Chocó-Darién moist forests	0.474	82808	11819	2512
Cordillera La Costa montane forests	0.671	12233	7364	5531
Cordillera Oriental montane forests	0.668	28287	17772	14418
Costa Rican seasonal moist forests	0.567	9991	9400	2619
Cross-Niger transition forests	0.696	24101	24101	20111
Cross-Sanaga-Bioko coastal forests	0.531	57193	56273	17808
Cuban cactus scrub	0.628	12	11	5
Cuban dry forests	0.426	92	86	3
Cuban moist forests	0.549	24853	20095	7554
Cuban pine forests	0.499	460	326	38
Dry Chaco	0.454	4	4	0
East African mangroves	0.318	94	94	1
East African montane forests	0.659	1567	1328	942
East Sudanian savanna	0.575	10	3	2
Eastern Arc forests	0.655	7647	2464	1791
Eastern Congolian swamp forests	0.346	105806	21393	380
Eastern Cordillera real montane forests	0.669	28286	10356	7404
Eastern Guinean forests	0.597	221111	220996	110724
Eastern highlands moist deciduous forests	0.532	414086	403779	102845
Eastern Java-Bali montane rain forests	0.586	13681	12647	5582
Eastern Java-Bali rain forests	0.490	61667	60791	11388
Eastern Miombo woodlands	0.547	42	26	9
Eastern Panamanian montane forests	0.508	2771	205	35
Ecuadorian dry forests	0.450	5	3	0
Ethiopian montane forests	0.488	21791	1490	309
Ethiopian montane grasslands and woodlands	0.323	2526	5	0
Goadavari-Krishna mangroves	0.361	11	10	0
Greater Negros-Panay rain forests	0.593	39832	39405	14378
Guajira-Barranquilla xeric scrub	0.621	2	2	1
Guayaquil flooded grasslands	0.372	1	1	0
Guianan freshwater swamp forests	0.458	9014	3947	503
Guianan Highlands moist forests	0.505	154702	8167	2481
Guianan moist forests	0.449	557336	41571	4838
Ecoregion	**Mean Restoration**	**Study Area**	**Restorable Area (Km²)**	**Restoration Score ≥0.6**

	Score	**(km²)**		**(Km²)**
Guianan piedmont and lowland moist forests	0.438	266156	28199	3084
Guianan savanna	0.415	1143	604	11
Guinean forest-savanna mosaic	0.595	50	49	21
Guinean mangroves	0.530	18	17	3
Guinean montane forests	0.677	32205	32133	24186
Gurupa varzeá	0.459	10750	8744	1001
Hainan Island monsoon rain forests	0.437	18677	18605	119
Halmahera rain forests	0.539	29617	5842	723
Hispaniolan dry forests	0.603	31	30	13
Hispaniolan moist forests	0.631	54527	51604	31791
Hispaniolan pine forests	0.521	3957	3587	396
Huon Peninsula montane rain forests	0.614	9047	3741	1171
Indochina mangroves	0.307	48	38	1
Iquitos varzeá	0.481	134363	26970	3373
Irrawaddy dry forests	0.403	38141	20147	440
Irrawaddy freshwater swamp forests	0.270	18321	17338	0
Irrawaddy moist deciduous forests	0.455	139065	123139	16846
Isthmian-Atlantic moist forests	0.527	68028	42352	6363
Isthmian-Pacific moist forests	0.587	32401	28577	11919
Jamaican dry forests	0.638	11	10	1
Jamaican moist forests	0.642	9837	7274	4582
Japurá-Solimoes-Negro moist forests	0.342	311714	20769	222
Jian Nan subtropical evergreen forests	0.445	35145	35116	379
Juruá-Purus moist forests	0.322	283209	5765	0
Kayah-Karen montane rain forests	0.546	116062	114294	44723
Kinabalu montane alpine meadows	0.477	2908	1431	73
La Costa xeric shrublands	0.663	28	21	15
Lake	0.371	9	7	0
Llanos	0.515	27	22	4
Lower Gangetic Plains moist deciduous forests	0.292	57099	55606	135
Luang Prabang montane rain forests	0.526	64366	61038	15591
Luzon montane rain forests	0.619	6601	3385	1896
Luzon rain forests	0.528	109445	95920	23410
Luzon tropical pine forests	0.455	1778	1568	28
Madagascar dry deciduous forests	0.663	38	38	31
Madagascar lowland forests	0.601	111029	91425	43488
Madagascar spiny thickets	0.595	80	80	31
Madagascar subhumid forests	0.677	130560	128231	103335
Madagascar succulent woodlands	0.615	7	6	4
Madeira-Tapajós moist forests	0.491	844943	198780	27543
Magdalena Valley dry forests	0.615	13	12	5
Ecoregion	**Mean Restoration**	**Study Area**	**Restorable Area (Km²)**	**Restoration Score ≥0.6**

	Score	**(km²)**		**(Km²)**
Magdalena Valley montane forests	0.726	34850	19945	18909
Magdalena-Urabá moist forests	0.631	89370	81645	62630
Malabar Coast moist forests	0.500	41197	41092	7223
Maracaibo dry forests	0.561	15	11	1
Marajó varzeá	0.467	97214	50835	5876
Maranhão Babaçu forests	0.598	165937	136509	75897
Marañón dry forests	0.707	5	4	2
Mato Grosso seasonal forests	0.511	488646	243856	57755
Meseta Central matorral	0.501	1	1	0
Mesoamerican Gulf-Caribbean mangroves	0.283	297	287	0
Mindanao montane rain forests	0.709	10394	8155	6767
Mindanao-Eastern Visayas rain forests	0.610	121717	106156	44781
Mindoro rain forests	0.568	10439	10251	3546
Miskito pine forests	0.324	1982	1662	1
Mizoram-Manipur-Kachin rain forests	0.550	44400	43749	6732
Monte Alegre varzeá	0.439	74488	28074	946
Motagua Valley thornscrub	0.411	2	2	0
Mount Cameroon and Bioko montane forests	0.715	531	531	446
Myanmar Coast mangroves	0.318	42	34	3
Myanmar coastal rain forests	0.422	80009	74572	1215
Napo moist forests	0.514	292727	31377	7101
Narmada Valley dry deciduous forests	0.570	4	4	2
Negro-Branco moist forests	0.389	234852	26409	1847
New Britain-New Ireland lowland rain forests	0.522	40399	7318	455
New Britain-New Ireland montane rain forests	0.596	8828	452	182
New Guinea mangroves	0.306	209	71	0
Niger Delta swamp forests	0.574	16788	16788	7645
Nigerian lowland forests	0.595	77913	77906	45036
North Western Ghats moist deciduous forests	0.501	57072	55210	6452
North Western Ghats montane rain forests	0.525	35181	35147	8929
Northeastern Brazil restingas	0.544	10954	10325	2306
Northeastern Congolian lowland forests	0.415	581317	136663	6041
Northern Annamites rain forests	0.498	53482	42473	4082
Northern Congolian forest-savanna mosaic	0.454	28	23	4
Northern dry deciduous forests	0.499	72108	70342	3691
Northern Indochina subtropical forests	0.604	234780	226819	136743
Northern Khorat Plateau moist deciduous forests	0.454	20555	20335	1705
Northern New Guinea lowland rain and freshwater swamp forests	0.477	157276	46482	8158
Northern New Guinea montane rain forests	0.550	24898	1402	418
Northern Thailand-Laos moist deciduous forests	0.544	50017	49732	20163
Northern Vietnam lowland rain forests	0.456	27379	25747	2180
Ecoregion	**Mean**	**Study**	**Restorable**	**Restoration**

	Restoration Score	**Area (km²)**	**Area (Km²)**	**Score ≥0.6 (Km²)**
Northern Zanzibar-Inhambane coastal forest mosaic	0.506	129322	95529	21333
Northwestern Andean montane forests	0.661	25027	6332	4844
Northwestern Congolian lowland forests	0.386	505721	235918	13291
Oaxacan montane forests	0.624	1592	731	467
Orinoco Delta swamp forests	0.396	33041	11488	297
Orinoco wetlands	0.437	10	3	0
Orissa semi-evergreen forests	0.359	26669	24670	742
Palawan rain forests	0.522	16071	11409	739
Panamanian dry forests	0.486	93	84	9
Pantanos de Centla	0.355	20893	20646	68
Pantepui	0.528	28492	1655	519
Paraguana xeric scrub	0.555	2	2	1
Patía Valley dry forests	0.580	5	4	1
Peninsular Malaysian montane rain forests	0.556	13992	1851	731
Peninsular Malaysian peat swamp forests	0.407	4221	1746	2
Peninsular Malaysian rain forests	0.430	142732	92256	11580
Pernambuco coastal forests	0.618	20446	20298	12811
Pernambuco interior forests	0.608	26480	26168	14189
Peruvian Yungas	0.677	21020	3377	2569
Petén-Veracruz moist forests	0.486	173981	117118	16269
Puerto Rican moist forests	0.543	8695	7563	2337
Purus varzeá	0.335	205800	30454	44
Purus-Madeira moist forests	0.440	203981	16462	32
Red River freshwater swamp forests	0.341	13284	12968	156
Rio Negro campinarana	0.364	111795	32269	226
Santa Marta montane forests	0.677	656	268	213
Sao Tome. Principe and Annobon moist lowland forests	NA	965	616	0
Seram rain forests	0.585	20987	5008	647
Serra do Mar coastal forests	0.639	40674	36582	24373
Sierra de los Tuxtlas	0.504	4479	4321	766
Sierra Madre de Chiapas moist forests	0.579	10423	9257	4217
Sierra Madre de Oaxaca pine-oak forests	0.403	117	61	1
Sierra Madre Oriental pine-oak forests	0.453	5	3	1
Sinú Valley dry forests	0.737	9	5	4
Solimões-Japurá moist forests	0.321	195426	4601	48
Somali Acacia-Commiphora bushlands and thickets	0.394	19	12	0
South American Pacific mangroves	0.250	10	5	0
South China-Vietnam subtropical evergreen forests	0.455	245505	244585	24363
South Deccan Plateau dry deciduous forests	0.458	3	2	0
Ecoregion	**Mean Restoration Score**	**Study Area (km²)**	**Restorable Area (Km²)**	**Restoration Score ≥0.6 (Km²)**

South Western Ghats moist deciduous forests	0.546	25133	24738	7736
South Western Ghats montane rain forests	0.567	19854	19583	9047
Southeastern Indochina dry evergreen forests	0.509	20	12	6
Southeastern Papuan rain forests	0.542	61301	20315	3454
Southern Andean Yungas	0.517	18143	10019	1822
Southern Annamites montane rain forests	0.595	34418	24373	12985
Southern Atlantic mangroves	0.512	15	14	4
Southern Congolian forest-savanna mosaic	0.387	53	23	0
Southern Mesoamerican Pacific mangroves	0.358	11	8	0
Southern Miombo woodlands	0.256	3	3	0
Southern New Guinea freshwater swamp forests	0.380	116381	60328	529
Southern New Guinea lowland rain forests	0.372	143884	27951	47
Southern Pacific dry forests	0.553	5	4	1
Southern Vietnam lowland dry forests	0.519	22	19	5
Southern Zanzibar-Inhambane coastal forest mosaic	0.485	153484	148010	20044
Southwest Amazon moist forests	0.446	868138	89206	5662
Southwest Borneo freshwater swamp forests	0.535	42479	30473	11045
Sri Lanka dry-zone dry evergreen forests	0.479	6	6	1
Sri Lanka lowland rain forests	0.540	14323	13364	3668
Sri Lanka montane rain forests	0.537	747	714	284
Sulawesi lowland rain forests	0.606	129641	81495	32371
Sulawesi montane rain forests	0.682	47467	18133	14248
Sumatran freshwater swamp forests	0.442	20755	18052	2114
Sumatran lowland rain forests	0.475	299371	217123	39786
Sumatran montane rain forests	0.666	32569	16403	12439
Sumatran peat swamp forests	0.456	100960	67620	9727
Sumatran tropical pine forests	0.529	421	67	4
Sunda Shelf mangroves	0.351	212	100	8
Sundaland heath forests	0.509	88908	57546	14664
Sundarbans freshwater swamp forests	0.230	17815	17744	0
Sundarbans mangroves	0.229	10	10	0
Talamancan montane forests	0.571	5587	2149	885
Tapajós-Xingu moist forests	0.477	392575	35510	2216
Tenasserim-South Thailand semi-evergreen rain forests	0.537		80817	19417
Tocantins/Pindare moist forests	0.531		130706	19971
Tonle Sap freshwater swamp forests	0.342		27123	49
Tonle Sap-Mekong peat swamp forests	0.385		31172	247
Trans Fly savanna and grasslands	0.350		12	0
Trinidad and Tobago moist forests	0.604		2235	1021
Trobriand Islands rain forests	0.535		1678	10
Tumbes-Piura dry forests	0.605		16	8
Ecoregion	**Mean Restoration Score**	**Study Area (km^2)**	**Restorable Area (Km^2)**	**Restoration Score ≥0.6 (Km^2)**

Uatuma-Trombetas moist forests	0.459		57378	3668
Ucayali moist forests	0.652		16313	11826
Venezuelan Andes montane forests	0.675		10647	8746
Veracruz dry forests	0.531		6	1
Veracruz moist forests	0.453		66156	5563
Veracruz montane forests	0.656		1706	1541
Vogelkop montane rain forests	0.592		1046	262
Vogelkop-Aru lowland rain forests	0.483		11518	1195
West Sudanian savanna	0.512		5	1
Western Congolian forest-savanna mosaic	0.419		27	2
Western Congolian swamp forests	0.367		57594	1353
Western Ecuador moist forests	0.449		16443	544
Western Guinean lowland forests	0.464		239623	26765
Western Java montane rain forests	0.621		22206	12341
Western Java rain forests	0.517		46175	12222
Xingu-Tocantins-Araguaia moist forests	0.507		114548	21264
Yucatán dry forests	0.307		8	0
Yucatán moist forests	0.419		25969	0
Yunnan Plateau subtropical evergreen forests	0.553		212	78
Zambezian coastal flooded savanna	0.437		6	0

Table S3. Mean ROS, study area, restorable area, and restorable area with a restoration score of >0.6 of KBAs within tropical rainforest landscapes.

Key Biodiversity Area	Country	Mean Restoration Score	Study Area (km^2)	Restorable Area (km^2)	Restoration Score ≥0.6 (km^2)
Alto Purus	Peru	0.255	32205	448	0
Alto Sucunduri	Brazil	0.402	54509	2296	16
Bahuaja-Sonene	Peru	0.397	11172	653	1
Baixada Maranhense	Brazil	0.525	20773	18066	2653
Baixo Rio Xingu	Brazil	0.430	7286	993	0
Belize Coastal and near shore islands	Belize	0.329	1880	843	0
Betung Kerihun	Indonesia	0.542	7788	6	2
Bosawas	Nicaragua	0.568	9244	1192	344
Campinas e Várzeas do Rio Branco	Brazil	0.385	43370	17051	174
Campos de Humaitá-Lábrea	Brazil	0.397	32154	4328	7
Caruachi	Venezuela	0.411	2362	1558	95
Caxiuanã / Portel	Brazil	0.405	40078	3287	30
Centraal Suriname Nature Reserve (CSNR)	Suriname	0.310	18773	103	0
Centro de Veracruz	Mexico	0.621	1839	1814	1149
Cerrados do Nordeste de Tocantins	Brazil	0.576	1053	1053	662
Cordillera del Cóndor	Peru	0.484	15486	550	56
Cordillera Vilcabamba	Peru	0.588	14018	1169	489
Cristalino / Serra do Cachimbo	Brazil	0.481	13331	4176	976
Dja Faunal Reserve	Cameroon	0.277	7309	4733	1
Este de Río Mamoré	Bolivia	0.397	1264	1197	9
Gamba Protected Areas Complex	Gabon	0.341	14252	9972	49
Goiabal / Piratuba	Brazil	0.466	7520	7060	534
Gran Yasuní	Ecuador	0.281	19093	294	4
Greater Mahale	Tanzania	0.540	72	36	16
Gunung Leuser	Indonesia	0.576	4489	550	289
Gurupi	Brazil	0.510	16312	2104	145
Ilha de Marajó	Brazil	0.493	44993	20404	4105
Istmo de Tehuantepec-Mar Muerto	Mexico	0.578	77	70	30
Itombwe Mountains	Democratic Republic of the Congo	0.677	317	4	4
Jamanxim / Altamira	Brazil	0.331	19200	310	0
Jamari	Brazil	0.441	9098	917	0
Ji-Paraná / Roosevelt	Brazil	0.388	13176	386	0
Kabalebo / Arapahu	Suriname	0.287	19726	572	0
Kayan Mentarang	Indonesia	0.629	7085	196	135
Kerinci Seblat	Indonesia	0.621	7375	618	365
Kidepo	South Sudan	0.654	1081	1079	725
Lavrados de Roraima	Brazil	0.455	503	471	3

Key Biodiversity Area	Country	Mean Restoration Score	Study Area (km^2)	Restorable Area (km^2)	Restoration Score ≥0.6 (km^2)
Lower Central Basin	Thailand	0.401	14911	14893	122
Maiko National Park	Democratic Republic of the Congo	0.305	12010	31	0
Mamirauá	Brazil	0.360	15270	2712	1
Manu	Peru	0.357	15060	675	25
Marungu highlands	Democratic Republic of the Congo	0.640	37	37	24
Maya - Lacandón	Guatemala	0.500	25559	10078	701
Maya Mountains and southern reserves	Belize	0.419	7566	772	2
Metu - Gore - Tepi forests	Ethiopia	0.469	1325	946	132
Minkébé Forest Reserve	Gabon	0.338	8791	5781	0
Miskito Keys and terrestrial landscape	Nicaragua	0.328	173	166	0
Myeik Archipelago	Myanmar	0.420	2708	1662	1
Myinmoletkhat	Myanmar	0.483	9468	4759	134
Ngiri	Democratic Republic of the Congo	0.355	23550	7601	0
Noel Kempff Mercado	Bolivia	0.345	6521	1183	11
Novo Progresso	Brazil	0.442	30929	817	2
Ntokou Pikounda Reserve	Congo	0.304	20957	2341	0
Odzala National Park complex	Congo	0.397	15852	2191	304
Oeste de Río Mamoré	Bolivia	0.390	985	919	23
Okapi Faunal Reserve	Democratic Republic of the Congo	0.346	15883	227	20
Parc Amazonien de Guyane et Saül	French Guiana	0.446	24504	25	0
Parque Nacional Canaima	Venezuela	0.500	15813	2175	588
Parque Nacional Cordillera Azul	Peru	0.472	9880	77	16
Parque Nacional da Amazônia	Brazil	0.359	13037	85	0
Parque Nacional da Serra do Divisor	Brazil	0.434	9891	147	0
Parque Nacional do Jaú	Brazil	0.289	27675	1089	0
Parque Nacional Montanhas do Tumucumaque	Brazil	0.324	45246	337	4
Parque Nacional Natural Chiribiquete	Colombia	0.378	15233	1888	62
Parque Nacional Natural Sierra de la Macarena	Colombia	0.537	6636	933	200
Parque Nacional Parima-Tapirapecó	Venezuela	0.420	41792	537	87
Parque Nacional Serranía La Neblina	Venezuela	0.341	15522	96	4

Key Biodiversity Area	**Country**	**Mean Restoration Score**	**Study Area (km^2)**	**Restorable Area (km^2)**	**Restoration Score ≥0.6 (km^2)**
Rawa di Pesisir Kapuas	Indonesia	0.484	6330	1810	118
Reentrâncias Maranhenses / Paraenses	Brazil	0.470	2387	1908	2
Reserva Comunal El Sira	Peru	0.492	3303	115	3
Reserva de Inmovilización Iténez	Bolivia	0.293	7503	1026	0
Reserva Forestal Imataca	Venezuela	0.448	42327	2785	388
Reserva Forestal Sipapo	Venezuela	0.388	25586	4949	115
Reserva Nacional Amazónica Manuripi Heath	Bolivia	0.363	9077	395	0
Reserva Nacional Pacaya Samiria	Peru	0.444	25500	2000	205
Rio Capim	Brazil	0.482	25092	5476	128
Río Conambo-Bobonaza	Ecuador	0.422	10164	128	8
Rio Tacutu	Brazil	0.503	1126	831	143
Salonga National Park	Democratic Republic of the Congo	0.187	40388	370	0
Savanas do Amapá	Brazil	0.497	849	768	26
Savanas do Rio Cotingo	Brazil	0.565	623	360	140
Selous Game Reserve	Tanzania	0.591	9057	6839	3954
Selva Zoque I	Mexico	0.589	5128	1581	763
Serra dos Carajás	Brazil	0.538	14396	850	236
Serranía de San Lucas	Colombia	0.724	5725	1322	1268
Sira Communal Reserve	Peru	0.492	3303	115	3
Southern Cardamoms	Cambodia	0.451	7862	2251	211
Tabocais	Brazil	0.422	87081	3493	5
Tepuis do Amazonas	Brazil	0.288	49848	674	13
Territorio Achuar	Ecuador	0.334	9014	281	0
Ulu Barito	Indonesia	0.446	8766	141	10
Vale do Guaporé	Brazil	0.363	17981	8633	134
Várzeas de Monte Alegre	Brazil	0.469	24262	20829	1910
Várzeas do Médio Rio Amazonas	Brazil	0.485	30211	23344	1610
Zambezi River Delta	Mozambique	0.393	4110	4110	0

Table S4. Mean ROS, total area, restorable area, and restorable area with a restoration score of >0.6 of tropical rainforest landscapes among hotspots for biodiversity conservation.

Biodiversity Conservation Hotspot	Mean Restoration Score	Study Area (km^2)	Restorable Area (Km^2)	Restoration Score ≥0.6 (Km^2)
Atlantic Forest	0.580	795,497	765,257	400,147
Indo-Burma	0.496	1,512,142	1,377,461	318,074
Guinean Forests of West Africa	0.551	685,373	683,168	258,710
Sundaland	0.492	1,569,019	924,507	208,867
Madagascar and the Indian Ocean Islands	0.647	243,728	221,538	146,889
Philippines	0.578	317,833	277,191	95,532
Mesoamerica	0.493	597,440	396,253	70,753
Tropical Andes	0.651	233,410	98,630	68,425
Tumbes-Choco-Magdalena	0.589	201,666	110,138	65,722
Wallacea	0.622	242,527	117,982	50,279
Caribbean Islands	0.601	102,847	90,900	46,720
Coastal Forests of Eastern Africa	0.491	279,368	240,116	39,661
Western Ghats and Sri Lanka	0.526	152,253	148,702	36,111
Eastern Afromontane	0.624	87,037	15,743	9,770
East Melanesian Islands	0.532	67,337	11,342	636